DOCUMENT RESUME

ED 143 496 SE 022 746

TITLE	NASA's University Program Active Grants and Research Contracts, Fiscal Year 1976.
INSTITUTION	National Aeronautics and Space Administration, Washington, D.C.
REPORT NO	NASA-TM-X-74142
PUB DATE	76
NOTE	338p.
AVAILABLE FROM	National Technical Information Service (NTIS), 5285 Port Royal Rd., Springfield, Virginia 22161 ($4.75)
EDRS PRICE	MF-$0.83 HC-$18.07 Plus Postage.
DESCRIPTORS	*Biological Sciences; *Grants; Higher Education; *Physical Sciences; Research; *Research Projects; Research Proposals; Science Education; Scientific Research; *Space Sciences; Universities
IDENTIFIERS	*National Aeronautics and Space Administration

ABSTRACT

This document provides a complete listing of all National Aeronautics and Space Administration (NASA) sponsored research grants and contracts awarded to universities during fiscal year 1976. Listing includes contract number, institution name, project description, period, amount of contract, and principal investigator. (SL)

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NASA TM X-74142

NASA'S UNIVERSITY PROGRAM

ACTIVE GRANTS & RESEARCH CONTRACTS

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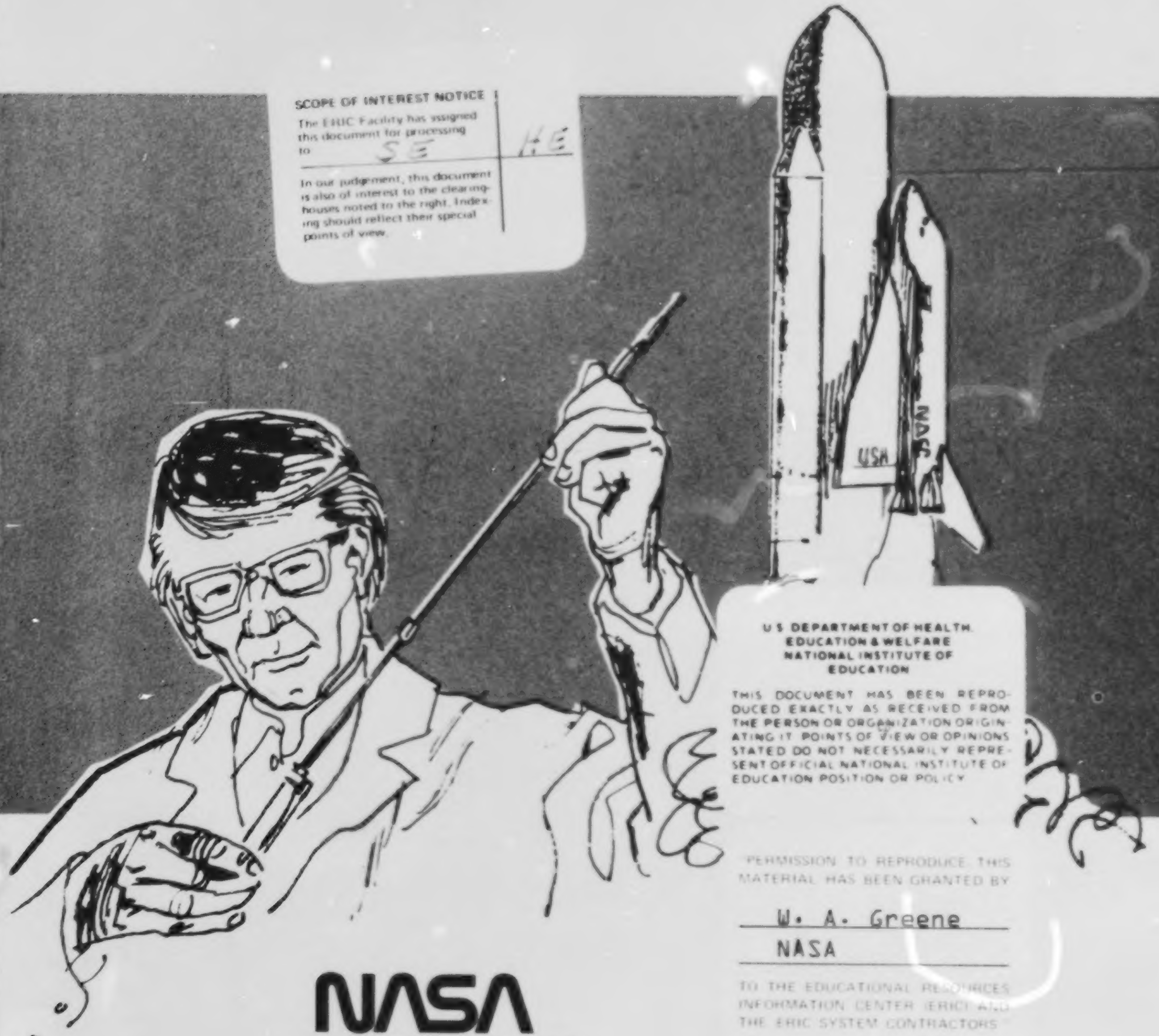

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National Aeronautics and
Space Administration

Office of University Affairs
Washington, D. C. 20546

FISCAL YEAR 1976

SE 022 746

IMPORTANT NOTICE

This report is compiled primarily from information obtained from two internal NASA sources:

1. "CASE Report on Support of Colleges and Universities" (NASA Form 1356).
2. "Individual Procurement Action Report" (NASA Form 507).

Therefore, other sources should be used for completing Forms 507 or 1356.

NASA'S UNIVERSITY PROGRAM

ACTIVE GRANTS AND RESEARCH CONTRACTS

FISCAL YEAR 1976

National Aeronautics and Space Administration
Office of University Affairs
Washington, D.C. 20546

Acknowledgements

This report was developed in the Policy Coordination Division of the Office of University Affairs under the guidance of W. A. Greene, Chief. Preparation of the input data for processing was accomplished by Doris J. Goodwin, Management Information Systems Officer. The Scientific and Technical Information Office produced the reproduction masters on the Photon Computer.

Additional Copies

This publication is available from the National Technical Information Service (NTIS), 5285 Port Royal Rd., Springfield, Virginia 22161 for $4.75.

FOREWORD

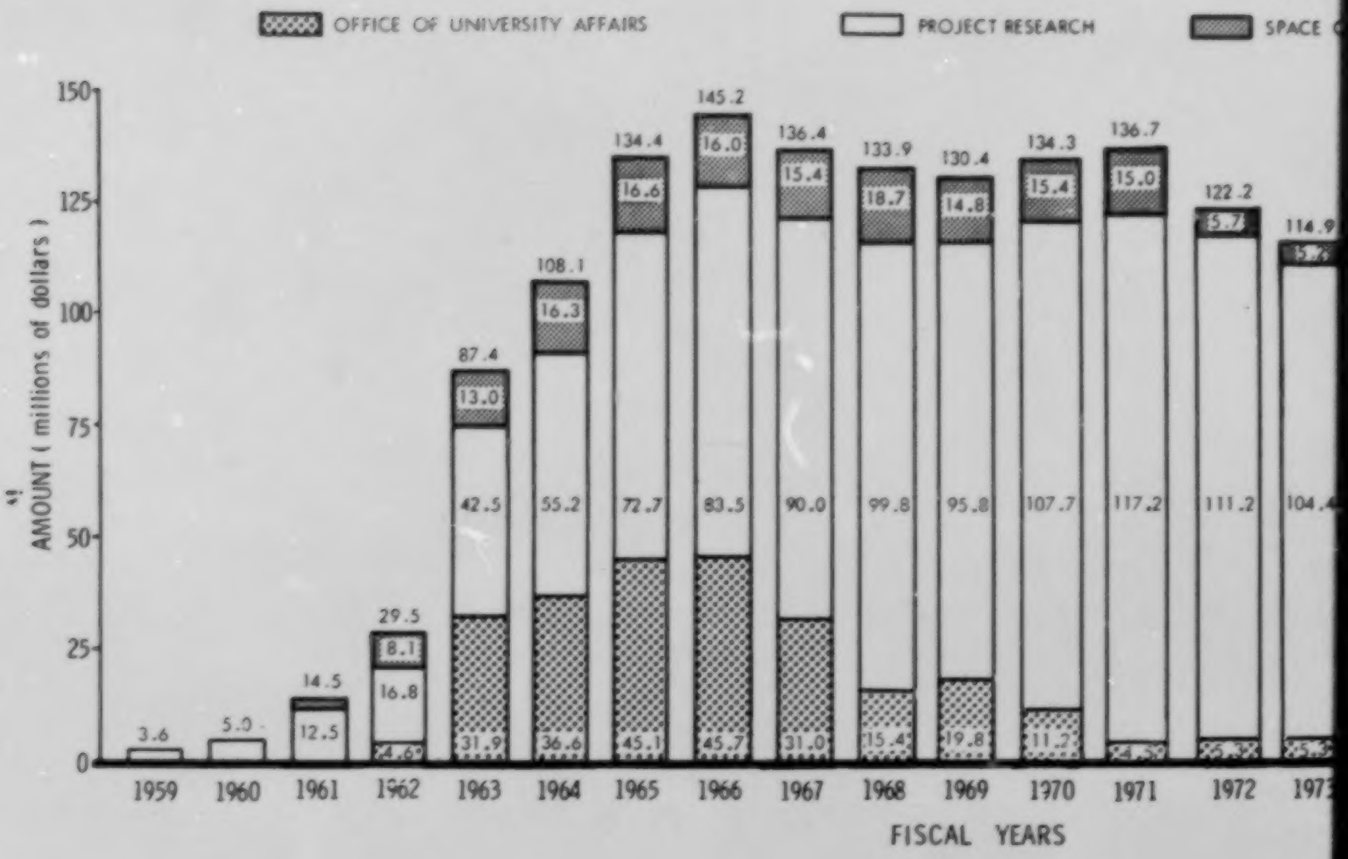
As basic policy NASA believes that colleges and universities should be encouraged to participate in the nation's space and aeronautics program to the maximum extent practicable. Indeed, universities are considered as partners with government and industry in the nation's aerospace program. NASA's objective is to have them bring their scientific, engineering, and social research competence to bear on aerospace problems and on the broader social, economic, and international implications of NASA's technical and scientific programs. It is expected that, in so doing, universities will strengthen both their research and their educational capabilities to contribute more effectively to the national well-being.

NASA Field Centers and certain Headquarters Program Offices provide funds for those R&D activities in universities which contribute to the mission needs of that particular NASA element. Although NASA has no predetermined amount of money to devote to university activities, the effort funded each year is substantial. (See the bar chart on the next page). This annual report is one means of documenting the NASA-university relationship, frequently denoted, collectively, as NASA's University Program.

The Office of University Affairs (OUA) serves as a focal point for NASA's relationships with colleges and universities. One of its roles is to provide information on the NASA University Program. The present document is designed to serve several purposes and a wide range of audiences from private individuals to NASA employees. The emphasis is on the technical content of the program, rather than on fiscal data, which is available separately from OUA. As some terminology will not be familiar to all readers, a "User's Guide" is included to facilitate the fullest use of the material related to the interests of any particular reader.

Information on obtaining reports resulting from these projects may be obtained from: NASA, Scientific and Technical Information Office, Code KS, Washington, DC 20546.

NASA OBLIGATIONS TO UNIVERSITI



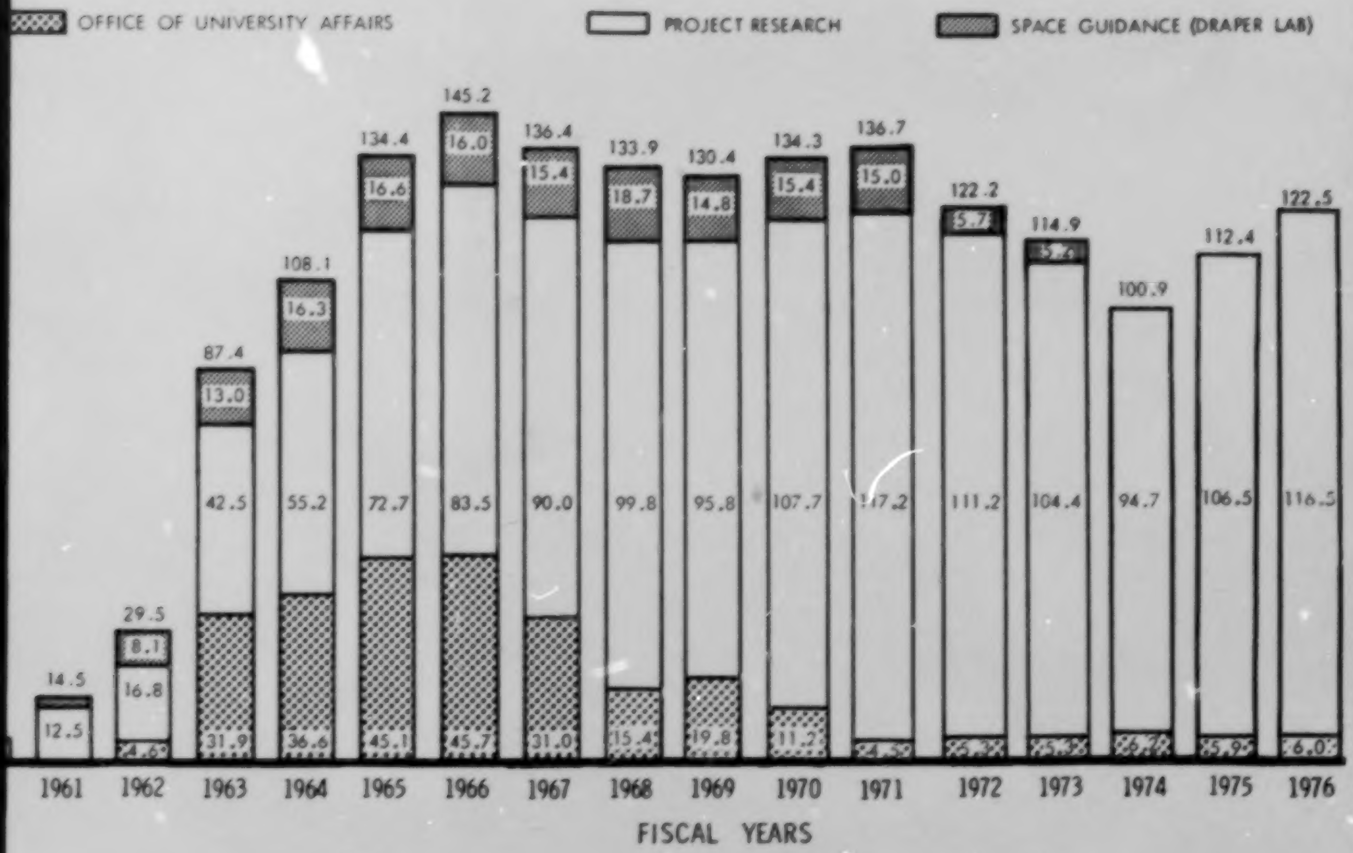
Notes: 1. Excludes obligations to or through Federally Funded Research and Development Centers (JPL, Lincoln Lab., SREL).

2. Change in status from "university" to "non-profit" for three organizations accounts for $10.1M of the difference between FY 73 and FY 74. (Draper Lab, ERI, Dudley Observatory).

3. Office of University Affairs includes 1962-1971 Sustaining University Program.

Source: NASA Office of University Affairs

NASA OBLIGATIONS TO UNIVERSITIES



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he difference between FY 73 and FY 74. (Draper Lab, ERI, Dudley Observatory).

rsity Affairs includes 1962-1971 Sustaining University Program.

ice of University Affairs

TABLE OF CONTENTS

This report includes data on projects active during Fiscal Year 1976.

Page
Alabama ... 1
Alaska ... 7
Arizona ... 7
Arkansas ... 13
California ... 14
Colorado ... 53
Connecticut ... 60
Delaware ... 61
District of Columbia ... 61
Florida ... 66
Georgia ... 70
Hawaii ... 75
Illinois ... 76
Indiana ... 81
Iowa ... 84
Kansas ... 87
Kentucky ... 90
Louisiana ... 91
Maryland ... 93
Massachusetts ... 101
Michigan ... 113
Minnesota ... 119
Mississippi ... 121
Missouri ... 124
Montana ... 127
Nebraska ... 127

Page
Nevada ... 127
New Hampshire ... 128
New Jersey ... 129
New Mexico ... 132
New York ... 136
North Carolina ... 150
North Dakota ... 153
Ohio ... 153
Oklahoma ... 160
Oregon ... 161
Pennsylvania ... 162
Rhode Island ... 169
South Carolina ... 170
South Dakota ... 171
Tennessee ... 171
Texas ... 174
Utah ... 188
Vermont ... 190
Virginia ... 190
Washington ... 201
West Virginia ... 204
Wisconsin ... 204
Wyoming ... 207
U.S. Outlying Areas ... 207
Foreign Countries ... 208

Appendix A – Cross Index by Grant/Contract Number ... 211

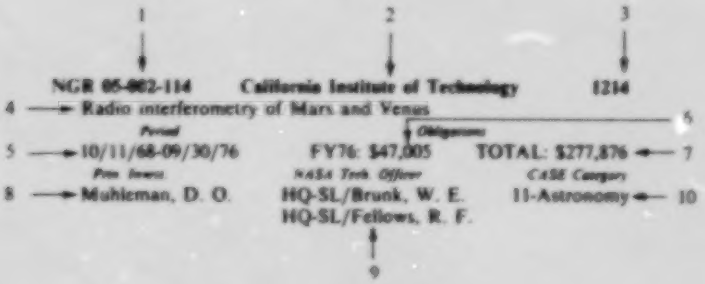
Appendix B – Cross Index by Field of Science and Engineering ... 229

Appendix C – Cross Index by First Technical Officer Location ... 279

USER'S GUIDE

The University Program Report provides current information and related statistics for each grant or research contract active during the report period. The following guidance is provided as an aid to the reader in readily locating material of interest and in optimizing the use of this document.

I. Typical Citation


1
2
3
NGR 05-002-114
California Institute of Technology
1214
4
Radio interferometry of Mars and Venus
6
Period
Obligations
5
10/11/68-09/30/76
FY76: $47,005
TOTAL: $277,876
7
Prin. Invest.
NASA Tech. Officer
CASE Category
8
Muhleman, D. O.
HQ-SL/Brunk, W. E.
HQ-SL/Fellows, R. F.
11-Astronomy
10
9

1. Grant or Contract Number.
2. Institution Name.
3. Accession Number.
4. Brief work description.
5. Approximate period of performance.
6. Amount (if any) actually provided during the indicated fiscal year.
7. Total amount actually provided during the indicated period of performance.
8. Principal Investigator(s) at the educational institution.
9. NASA Technical Officer(s) and organizational location.
10. CASE Field of Science and Engineering code and name.

II. NASA Installations

NASA installations are included in the citation as abbreviations (item 9). The following listing of installations will be useful to those desiring further information on specific projects.

Abbrev.	Code	Installation Name and Address	Telephone Number for Information
ARC	21	Ames Research Center NASA Moffett Field, CA 94035	415/965-5000
DFRC	24	Dryden Flight Research Center NASA P.O. Box 273 Edwards, CA 93523	805/258-3311
GSFC	51	Goddard Space Flight Center NASA Greenbelt, MD 20771	301/982-5042
JPL	55	Jet Propulsion Laboratory 4800 Oak Grove Drive Pasadena, CA 91103	213/354-4321
JSC	72	Johnson Space Center NASA Houston, TX 77058	713/483-3111
KSC	76	Kennedy Space Center NASA Kennedy Space Center, FL 32899	305/867-7113
LARC	23	Langley Research Center NASA Langley Station Hampton, VA 23665	804/827-1110
LERC	22	Lewis Research Center NASA 21000 Brookpark Road Cleveland, OH 44135	216/433-4000
MSFC	62	Marshall Space Flight Center NASA Marshall Space Flight Center, AL 35812	205/453-2121
NSTL	64	National Space Technology Laboratories NASA Bay St. Louis, MS 39520	601/688-2211

WFC	53	Wallops Flight Center NASA Wallops Island, VA 23337	804/824-3411
WTR	--	Western Launch Operations Division P.O. Box 425 Lompoc, CA 93436	805/866-1611
HQ	10	NASA Headquarters Washington, DC 20546	202/755-2320

The abbreviation for NASA Headquarters, HQ, usually carries a suffix, for example HQ-P, which denotes a particular office and general area of responsibility. (P is the Office of University Affairs.) A full listing of the suffix letters and information on NASA's organizational structure may be found in the NASA Headquarters Telephone Directory. (The Directory is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.)

III. CASE Fields of Science and Engineering

The National Science Foundation (NSF) on behalf of the Committee on Academic Science and Engineering (CASE) of the Federal Council for Science and Technology (FCST) operates a government-wide system for collecting and analyzing data on support to colleges and universities. Participating agencies report annually to NSF which in turn issues *Support to Universities, Colleges and Selected Nonprofit Institutions.* The CASE Fields, used in the extensive tabulations contained in that document, form the only consistent classification system for government sponsored research. The fields are listed in full in Appendix B.

IV. Cross-Indexes

The cross-indexed Appendices are related to the citations (descriptions) by the accession number (item 3). The accession number has meaning only in this report; it is in no way permanently associated with nor does it uniquely identify a specific grant or contract anywhere except in the present report. Accession numbers are assigned sequentially to the citations, beginning with 1000. Thus, when an entry of interest is identified in any one of the Appendices, the associated accession number allows ready location of the full description in the body of the report.

Appendix A – Given only the grant or contract number this index enables the reader to locate the citation. The first page tells how to distinguish grants from contracts.

Appendix B – This index provides rapid access to all projects in a particular area of endeavor, as defined by the CASE Fields. This listing is also easily used to determine the institutions and principal investigators conducting NASA projects in a field.

Appendix C – The types of effort sponsored by each NASA installation may be determined from this index.

ALABAMA

NAS 9-14770 **Alabama A&M University** **1000**
Communication system performance evaluation based upon pseudonoise testing

Period	*Obligations*	
10/20/75-01/31/77	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weathers, G. D.	JSC/Teasdale, W. E.	45-Elec Engr

NGR 01-001-003 **Alabama A&M University** **1001**
Radiation effects in the metabolism of phospho-lipids in the central nervous system of albino rats

Period	*Obligations*	
05/10/65-06/15/76	FY76:	TOTAL: $53,738
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lee, C. O.	HQ-P/Pohly, J. G.	59-Life Sci, NEC

NGR 01-001-023 **Alabama A&M University** **1002**
Development of remote sensing applications for natural resource study and management

Period	*Obligations*	
06/13/73-06/15/76	FY76:	TOTAL: $81,124
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sharma, G. C.	MSFC/Downs, S. W., Jr.	51-Biology

NGR 01-001-025 **Alabama A&M University** **1003**
Investigation of water quality parameters at selected points on Tennessee river

Period	*Obligations*	
09/01/73-01/01/76	FY76:	TOTAL: $46,913
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Manger, M. C.	MSFC/McDonough, G. F. MSFC/Kent, M. I.	39-Env Sci, NEC

NSG 8001 **Alabama A&M University** **1004**
Application of transition radiations to detect charged particles in cosmic rays

Period	*Obligations*	
01/02/74-04/01/78	FY76:	TOTAL: $16,818
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
George, M. C.	MSFC/Parnell, T. A. MSFC/Kent, M. I.	11-Astronomy

NSG 8011 **Alabama A&M University** **1005**
Application of self-induced transparency and self-trapping to reduce the degradation of laser pulses

Period	*Obligations*	
07/01/74-10/01/75	FY76:	TOTAL: $19,644
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lee, C. T.	MSFC/Kurtz, R. L. MSFC/Kent, M. I.	13-Physics

NSG 8013 **Alabama A&M University** **1006**
Performance analysis and design study for a proposed HEAO tracking and data relay satellite data communications link

Period	*Obligations*	
07/01/74-10/01/75	FY76:	TOTAL: $24,118
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weather, G. D.	MSFC/Lowrey, D. O.	45-Elec Engr

NSG 8022 **Alabama A&M University** **1007**
Rocket engine thrust chamber wall temperature distribution calculation and analysis

Period	*Obligations*	
10/17/74-04/30/76	FY76:	TOTAL: $23,554
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Saha, H.	MSFC/Gross, K. W. MSFC/Kent, M. I.	13-Physics

NSG 8033 **Alabama A&M University** **1008**
The study of crystals for space processing and the effects of 0-gravity

Period	*Obligations*	
01/15/76-01/14/77	FY76: $24,254	TOTAL: $24,254
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lal, R. B.	MSFC/Bannister, T. C. MSFC/Kent, M. I.	13-Physics

NSG 8037 **Alabama A&M University** **1009**
Atmospheric effects on coherent laser systems

Period	*Obligations*	
06/01/76-06/01/77	FY76: $20,486	TOTAL: $20,486
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Murty, S. S.	MSFC/Jeffreys, H. B. MSFC/Kent, M. I.	13-Physics

NSG 8041 **Alabama A&M University** **1010**
Parametric study of rock pile thermal storage for solar heating

Period	*Obligations*	
06/01/76-06/01/77	FY76: $36,056	TOTAL: $36,056
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Saha, H.	MSFC/Humphries, W. R. MSFC/Kent, M. I.	46-Mech Engr

NAS 8-28058 **Athens College** **1011**
Chemical analysis of outgassing contaminant on spacecraft surfaces

Period	*Obligations*	
10/27/71-10/06/76	FY76: $13,872	TOTAL: $93,697
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McNutt, R. C.	MSFC/Jex, D. W. MSFC/Kroes, R. L.	13-Physics

NAS 8-30561 **Athens College** **1012**
Solidification kinetics

Period	*Obligations*	
06/25/74-09/25/75	FY76:	TOTAL: $22,067
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McNutt, R. C. Short, W. A.	MSFC/Zwiener, J. M. MSFC/Ruff, R. C.	13-Physics

NAS 8-30880 **Athens College** **1013**
Determination of exploratory loading techniques for holographic non-destructive testing
Period *Obligations*
07/01/74-09/30/76 FY76: $5,040 TOTAL: $21,102
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Martin, A. M., III MSFC/Moore, W. W., Jr. 13-Physics
MSFC/Owens, R. B.

NAS 8-31731 **Athens College** **1014**
Vapor transport mechanisms
Period *Obligations*
10/08/75-10/07/76 FY76: $25,000 TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Workman, G. L. MSFC/Arnett, G. M. 12-Chemistry
MSFC/Davidson, M. C.

NAS 8-20765 **Auburn University** **1015**
Frequency Modulated (FM) telemetry systems
Period *Obligations*
05/22/67-06/15/74 FY76: TOTAL: $232,170
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Irwin, J. D. MSFC/Emens, F. H. 45-Elec Engr
James, S.

NAS 8-26930 **Auburn University** **1016**
Advanced computer system studies and development
Period *Obligations*
03/29/71-10/15/76 FY76: TOTAL: $71,225
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Carroll, B. D. MSFC/White, J. B. 45-Elec Engr
Irwin, J. D.

NAS 8-29852 **Auburn University** **1017**
Investigation of problems involving calculation of space tug's position in an inertial coordinate system
Period *Obligations*
06/20/73-11/19/75 FY76: TOTAL: $74,394
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Boland, J. S., III MSFC/Craighead, P. T. 49-Engr, NEC
MSFC/Singley, M. E.

NAS 8-29856 **Auburn University** **1018**
Detection of soil acidity
Period *Obligations*
07/01/73-12/31/76 FY76: $10,000 TOTAL: $54,900
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hagler, T. B. MSFC/Downs, S. W., Jr. 51-Biology
MSFC/Paludan, C. T.

NAS 8-29881 **Auburn University** **1019**
Econometric analysis of materials processing in space
Period *Obligations*
03/12/74-09/15/75 FY76: TOTAL: $73,170
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vachon, R. I. MSFC/McKannan, E. C. 72-Economics
MSFC/Wheeler, J.

NAS 8-30248 **Auburn University** **1020**
Terminal guidance and navigation for comet and asteroid rendezvous
Period *Obligations*
12/16/73-06/15/75 FY76: TOTAL: $25,656
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bennett, A. G. MSFC/Duncan, J. R., Jr. 41-Aero Engr
MSFC/Blair, J. C.

NAS 8-30654 **Auburn University** **1021**
Development of Alabama resources information management system
Period *Obligations*
04/23/74-09/15/76 FY76: $10,092 TOTAL: $71,592
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vachon, R. I. MSFC/Cummings, R. E. 21-Mathematics
Herring, B. E. MSFC/Messer, C.

NAS 8-31190 **Auburn University** **1022**
Development of automated test procedures and techinques for LSI circuits
Period *Obligations*
10/10/74-07/10/75 FY76: TOTAL: $6,861
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Carroll, B. D. MSFC/Gould, J. M. 45-Elec Engr
MSFC/Juergensen, K.

NAS 8-31223 **Auburn University** **1023**
Optical data processing study
Period *Obligations*
02/04/75-10/04/76 FY76: TOTAL: $14,231
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pinson, L. J. MSFC/Keer, J. H. 45-Elec Engr
MSFC/Smith, H. F.

NAS 8-31572 **Auburn University** **1024**
Design, processing and test of large scale integrated circuit arrays
Period *Obligations*
12/01/75-11/30/76 FY76: $11,148 TOTAL: $11,148
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Carroll, B. D. MSFC/Matheney, J. L. 45-Elec Engr
MSFC/Gould, J.

NCA 8-106 **Auburn University** **1025**
Study of solid propellant rocket motor internal ballistic performance variation
Period *Obligations*
01/22/75-07/22/75 FY76: TOTAL: $21,590
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sforzini, R. H. MSFC/Shackelford, B. W. 12-Chemistry

NCA 8-108 **Auburn University** **1026**
An analysis of solid rocket motor thrust imbalance
Period *Obligations*
01/22/75-07/22/75 FY76: TOTAL: $1,259
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sforzini, R. H. MSFC/Shackelford, B. W.43-Chem Engr

NCA 8-109 **Auburn University** **1027**
Application of aerospace technology to the mathematical and statistical characterization of railbed and highway geometrics

Period	*Obligations*	
06/20/75-12/20/75	FY76:	TOTAL: $25,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bell, L.	MSFC/Cook, L. J.	21-Mathematics

NCA 8-120 **Auburn University** **1028**
Solid propellant rocket motor internal ballistic performance variation

Period	*Obligations*	
10/28/75-06/30/76	FY76: $24,000	TOTAL: $24,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sforzini, R. H.	MSFC/Shackleford, B. W.	43-Chem Engr

NCA 8-124 **Auburn University** **1029**
Research and study of solid propellant rocket motor internal ballistic performance variation

Period	*Obligations*	
05/05/76-09/29/76	FY76: $8,000	TOTAL: $8,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sforzini, R. H.	MSFC/Shackleford, B. W.	43-Chem Engr

NGT 01-003-044 **Auburn University** **1030**
Summer fellowship programs in engineering systems design

Period	*Obligations*	
12/16/69-03/31/76	FY76:	TOTAL: $719,236
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vachon, R. I.	HQ-P/Carter, C. H.	49-Engr, NEC

NGT 01-003-045 **Auburn University** **1031**
Summer faculty fellowship program in aeronautics and space research

Period	*Obligations*	
12/16/69-03/31/75	FY76:	TOTAL: $341,562
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
O'Brien, J. F.	HQ-P/Carter, C. H.	49-Engr, NEC

NSG 3109 **Auburn University** **1032**
Techniques for determining stresses in rotating turbine or compressor blades

Period	*Obligations*	
09/01/76-09/01/77	FY76: $38,842	TOTAL: $38,842
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ranson, W. F. Swinson, W. F.	LERC/Decker, A. J.	49-Engr, NEC

NSG 8017 **Oakwood College** **1033**
Inhibitory effects of tocopherol (vitamin E) on free radical deterioration of cellular membranes

Period	*Obligations*	
09/20/74-10/30/75	FY76:	TOTAL: $18,840
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Richardson, D.	MSFC/Kent, M. I.	12-Chemistry

NGR 01-007-009 **Talladega College** **1034**
Far infrared lattice properties of gallium arsenide

Period	*Obligations*	
01/01/74-03/14/77	FY76: $22,791	TOTAL: $80,450
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Breecher, J.	MSFC/Dalins, I. MSFC/Kent, M. I.	13-Physics

NAS 9-13844 **Tuskegee Institute** **1035**
Analytical investigation of the heat-pipe radiator as a spacecraft heat rejection system

Period	*Obligations*	
01/01/74-08/31/76	FY76: $15,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sellers, J. P.	JSC/French, B. O.	46-Mech Engr

NCA 2-810601 **Tuskegee Institute** **1036**
Scanning and transmission electron microscopy

Period	*Obligations*	
04/09/76-04/08/77	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sapp, W. J.	ARC/Philpott, D. E.	13-Physics

NGT 01-005-750 **Tuskegee Institute** **1037**
Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/75-05/31/77	FY76: $14,000	TOTAL: $28,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dybczak, Z. W.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	49-Engr, NEC

NSG 8003 **Tuskegee Institute** **1038**
Investigation of effects of corona and electrical discharges on degradation of insulation materials

Period	*Obligations*	
02/01/74-08/01/76	FY76:	TOTAL: $53,886
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Doreswamy, C. V.	MSFC/Crowell, C. S. MSFC/Kent, M. I.	45-Elec Engr

NSG 8038 **Tuskegee Institute** **1039**
Investigation of electrical breakdown characteristics and stability of insulating materials used on solar cells (photovoltaic converters

Period	*Obligations*	
08/01/76-07/31/77	FY76: $25,693	TOTAL: $25,693
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Doreswamy, C. V.	MSFC/Young, L. E. MSFC/Kent, M. I.	45-Elec Engr

NGR 01-010-001 **University of Alabama - Birmingham** **1040**
Model for origin and coevolution of genetic code and the process of protein synthesis

Period	*Obligations*	
05/09/73-05/30/77	FY76: $50,646	TOTAL: $123,196
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lacey, J. C., Jr.	HQ-SB/Young, R. S.	12-Chemistry

ALABAMA (Continued)

NAS 8-24908 **University of Alabama - Huntsville** **1041**
Study of radiation environment in orbit of the Apollo applications satellites

Period	*Obligations*	
06/24/69-10/31/75	FY76:	TOTAL: $195,278
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hiser, H. W.	MSFC/Parnell, T. A.	11-Astronomy

NAS 8-24953 **University of Alabama - Huntsville** **1042**
Study of specific light output of CSI crystals

Period	*Obligations*	
06/26/69-12/31/76	FY76: $24,000	TOTAL: $373,852
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gregory, J. C.	MSFC/Parnell, T. A. MSFC/Fishman, G. J.	13-Physics

NAS 8-27809 **University of Alabama - Huntsville** **1043**
Superconducting compounds & alloys

Period	*Obligations*	
06/29/71-10/31/75	FY76:	TOTAL: $127,191
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Otto, G. H.	MSFC/Lacy, L. L. MSFC/Urban, E. W.	47-Materials Engr

NAS 8-28097 **University of Alabama - Huntsville** **1044**
Triggering mechanisms for solar flares

Period	*Obligations*	
12/06/71-07/31/77	FY76: $255,000	TOTAL: $380,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wu, S. T.	MSFC/Hagyard, M. J. MSFC/Wilson, R. M.	13-Physics

NAS 8-28248 **University of Alabama - Huntsville** **1045**
Environmental dynamics at orbital altitudes

Period	*Obligations*	
01/24/72-06/30/76	FY76:	TOTAL: $104,332
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hermann, R.	MSFC/Swenson, G. R. MSFC/Smith, R. E.	42-Astro Engr

NAS 8-28304 **University of Alabama - Huntsville** **1046**
Skylab experiment on growth of spherical crystals

Period	*Obligations*	
09/19/72-06/30/76	FY76: $55,000	TOTAL: $147,547
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Walter, H. U.	MSFC/Adams, W. R. MSFC/Bannister, T. C.	19-Phys Sci, NEC

NAS 8-29316 **University of Alabama - Huntsville** **1047**
Working model of the London Moment Readout System

Period	*Obligations*	
10/06/72-11/30/76	FY76: $71,110	TOTAL: $310,351
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hendricks, J. B. Karr, G. R.	MSFC/Urban, E. W. MSFC/Decher, R.	99-Multi-Discip

NAS 8-29543 **University of Alabama - Huntsville** **1048**
Airglow research

Period	*Obligations*	
02/01/73-05/31/75	FY76:	TOTAL: $31,990
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wu, S. T.	MSFC/Swenson, G. R.	13-Physics

NAS 8-30247 **University of Alabama - Huntsville** **1049**
Review, study, and evaluation of possible flight experiments relating to cloud physics experiments in space

Period	*Obligations*	
11/01/73-10/31/76	FY76:	TOTAL: $100,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hung, R. J.	MSFC/Smith, R. E. MSFC/Vaughan, W. W.	31-Atmos Sci

NAS 8-30563 **University of Alabama - Huntsville** **1050**
Study of magnetospheric and laboratory plasma physics experiments

Period	*Obligations*	
09/01/74-10/30/76	FY76: $30,000	TOTAL: $78,796
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smalley, L. L.	MSFC/Chappell, C. R. MSFC/Burch, J. L.	13-Physics

NAS 8-30772 **University of Alabama - Huntsville** **1051**
Study on the environmental parameters of the Tennessee River

Period	*Obligations*	
05/16/74-01/31/76	FY76:	TOTAL: $24,761
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rossing, L. M.	MSFC/Morton, R. R. MSFC/Hamby, H. G.	51-Biology

NAS 8-30774 **University of Alabama - Huntsville** **1052**
Study on space processing of crystalline materials

Period	*Obligations*	
09/01/74-05/31/75	FY76:	TOTAL: $9,862
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Castle, J. G., Jr.	MSFC/Zwiener, J. M.	47-Materials Engr

NAS 8-30885 **University of Alabama - Huntsville** **1053**
Demonstrate the feasibility of the mirads for the retrieval of air pollution data

Period	*Obligations*	
06/26/74-06/29/75	FY76:	TOTAL: $14,997
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schroer, B. J.	MSFC/Gravette, M. C. MSFC/Gibbons, J. D.	39-Env Sci, NEC

NAS 8-31169 **University of Alabama - Huntsville** **1054**
Earth resources data acquisition sensor study

Period	*Obligations*	
12/01/74-08/06/75	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grohse, E. W.	MSFC/Morton, R. R. MSFC/Hamby, H. G.	44-Civil Engr

ALABAMA (Continued)

NAS 8-31170 **University of Alabama - Huntsville** **1055**
Study of efficient low power diffractometer designs
Period *Obligations*
01/15/75-10/15/76 FY76: $28,399 TOTAL: $48,391
Prin. Invest *NASA Tech Officer* *CASE Category*
Gregory, J. C. MSFC/Parnell, T. A. 13-Physics
MSFC/Chisholm, W. L.

NAS 8-31171 **University of Alabama - Huntsville** **1056**
Study of internal wave motions on the neutral atmosphere
Period *Obligations*
02/14/75-09/30/77 FY76: TOTAL: $20,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Hung, R. J. MSFC/West, G. S., Jr. 39-Env Sci, NEC
MSFC/Hill, C. K.

NAS 8-31174 **University of Alabama - Huntsville** **1057**
Contract for integrated real time contamination monitor
Period *Obligations*
03/11/75-05/10/76 FY76: TOTAL: $13,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Luttges, W. E. MSFC/Detko, G. J. 19-Phys Sci, NEC
MSFC/Loughead, A. G.

NAS 8-31194 **University of Alabama - Huntsville** **1058**
Earth and ocean modeling
Period *Obligations*
12/01/74-01/16/77 FY76: TOTAL: $90,919
Prin. Invest *NASA Tech Officer* *CASE Category*
Knezovich, F. M. MSFC/Teuber, D. L. 13-Physics
MSFC/Lundquist, C. A.

NAS 8-31293 **University of Alabama - Huntsville** **1059**
Solar heating and cooling technical data and systems analysis
Period *Obligations*
11/07/74-09/30/76 FY76: $116,446 TOTAL: $156,444
Prin. Invest *NASA Tech Officer* *CASE Category*
Christiensen, D. MSFC/Bowden, D. R. 13-Physics

NAS 8-31321 **University of Alabama - Huntsville** **1060**
Cloud physics laboratory project, science and applications working group
Period *Obligations*
12/20/74-09/30/77 FY76: TOTAL: $80,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Hung, R. J. MSFC/Smith, R. E. 31-Atmos Sci
MSFC/Hill, C. K.

NAS 8-31345 **University of Alabama - Huntsville** **1061**
Water resources and stream contamination study
Period *Obligations*
04/01/75-04/30/77 FY76: TOTAL: $15,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Doyle, L. MSFC/Bensko, J. 32-Geological Sci
MSFC/Hamby, H. G.

NAS 8-31729 **University of Alabama - Huntsville** **1062**
Numerical simulation of warm fogs
Period *Obligations*
11/05/75-11/04/76 FY76: $20,000 TOTAL: $20,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Hung, R. J. MSFC/Vaughan, O. H. 13-Physics
MSFC/Anderson, B. J.

NAS 8-31768 **University of Alabama - Huntsville** **1063**
Low gravity processing of super conducting compounds
Period *Obligations*
12/15/75-06/15/76 FY76: $18,000 TOTAL: $18,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Otto, G. H. MSFC/Lacy, L. L. 46-Mech Engr
MSFC/Yates, I. C., Jr.

NAS 8-31895 **University of Alabama - Huntsville** **1064**
Investigations in cosmic ray and gamma ray astronomy and nuclear instruments
Period *Obligations*
03/19/76-01/18/77 FY76: $19,000 TOTAL: $19,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Gregory, J. C. MSFC/Fishman, G. J. 13-Physics
Meggan, C. MSFC/Parnell, T. A.
Lig, S. E.

NGL 01-008-001 **University of Alabama - Huntsville** **1065**
Research in aerospace physical sciences and engineering
Period *Obligations*
09/17/69-05/31/76 FY76: TOTAL: $500,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Rush, J. E. HQ-P/Carter, C. H. 99-Multi-Discip
MSFC

NGR 01-008-015 **University of Alabama - Huntsville** **1066**
Effects of solar flare ionization on terrestrial ionosphere
Period *Obligations*
11/30/73-04/30/76 FY76: $9,355 TOTAL: $24,544
Prin. Invest *NASA Tech Officer* *CASE Category*
Rao, G. L. HQ-ST/Timothy, A. F. 11-Astronomy

NGT 01-008-021 **University of Alabama - Huntsville** **1067**
Summer faculty fellowship program
Period *Obligations*
01/01/76-03/31/77 FY76: $104,525 TOTAL: $104,525
Prin. Invest *NASA Tech Officer* *CASE Category*
Head, R. R. HQ-P/Carter, C. H. 49-Engr, NEC

NSG 2058 **University of Alabama - Huntsville** **1068**
Development of an isolation research model and paradigm
Period *Obligations*
12/15/74-05/31/77 FY76: $40,000 TOTAL: $90,201
Prin. Invest *NASA Tech Officer* *CASE Category*
Rogers, J. G. ARC/Tanner, T. A. 69-Psych, NEC
Sullins, W. R., Jr.

NASA'S UNIVERSITY PROGRAM

ALABAMA (Continued)

NAS 8-20172 University of Alabama - Tuscaloosa 1069
Study and analysis of the FM/FM and SS/FM telemetry systems for the Saturn vehicle
Period *Obligations*
06/10/65-07/30/74 FY76: TOTAL: $529,545
Prin. Invest *NASA Tech. Officer* *CASE Category*
Houts, R. C. MSFC/Emens, F. H. 45-Elec Engr

NAS 8-25562 University of Alabama - Tuscaloosa 1070
The study of the effects of atmospheric turbulence on laser communication system
Period *Obligations*
03/03/70-12/31/74 FY76: TOTAL: $95,601
Prin. Invest *NASA Tech. Officer* *CASE Category*
Webb, W. E. MSFC/Randall, J. L. 31-Atmos Sci

NAS 8-28098 University of Alabama - Tuscaloosa 1071
Crystal growth
Period *Obligations*
12/02/71-08/12/75 FY76: TOTAL: $99,803
Prin. Invest *NASA Tech. Officer* *CASE Category*
Miyagawa, I. MSFC/Bannister, T. C. 13-Physics
MSFC/Facemire, B. R.

NAS 8-29100 University of Alabama - Tuscaloosa 1072
Water resources planning for rivers draining into mobile bay
Period *Obligations*
07/01/73-09/30/76 FY76: $15,000 TOTAL: $64,980
Prin. Invest *NASA Tech. Officer* *CASE Category*
April, G. C. MSFC/Morton, R. R. 49-Engr, NEC
Hill, D. O. MSFC/Paludan, C. T.

NAS 8-29494 University of Alabama - Tuscaloosa 1073
Study-experiment analysis and ground base test programs for a single crystal growth project
Period *Obligations*
01/29/73-09/30/74 FY76: TOTAL: $14,102
Prin. Invest *NASA Tech. Officer* *CASE Category*
De Smet, D. J. MSFC/Schafer, C. F. 13-Physics
MSFC/Davidson, M. C.

NAS 8-29936 University of Alabama - Tuscaloosa 1074
Assessment of practicality of remote sensing techniques for study of effects of strip mining in Alabama
Period *Obligations*
06/08/73-06/30/75 FY76: TOTAL: $32,651
Prin. Invest *NASA Tech. Officer* *CASE Category*
Hughes, T. H. MSFC/Bensko, J. 32-Geological Sci
MSFC/Jones, R. E.

NAS 8-29[illegible] University of Alabama - Tuscaloosa 1075
Use of remote sensing techniques for geological hazard surveys in vegetated urban regions
Period *Obligations*
06/08/73-06/30/76 FY76: TOTAL: $49,996
Prin. Invest *NASA Tech. Officer* *CASE Category*
Stow, S. H. MSFC/Bensko, J. 32-Geological Sci

NAS 8-30479 University of Alabama - Tuscaloosa 1076
Evaluation of composite mobile holographic nondestructive test system
Period *Obligations*
12/28/73-05/27/76 FY76: TOTAL: $31,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Liu, H. K. MSFC/Moore, W. W., Jr. 13-Physics
MSFC/Kurtz, R. L.

NAS 8-30624 University of Alabama - Tuscaloosa 1077
Plume induced flow separation in unsteady aerodynamics
Period *Obligations*
05/13/74-08/15/76 FY76: TOTAL: $50,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Doughty, J. O. MSFC/Schutzenhofer, L. A.
46-Mech Engr
MSFC/Jones, J. H.

NAS 8-30886 University of Alabama - Tuscaloosa 1078
Computer model simulation of the effects of electromagnetic interference
Period *Obligations*
07/15/74-09/01/74 FY76: TOTAL: $3,978
Prin. Invest *NASA Tech. Officer* *CASE Category*
Ainsworth, O. R. MSFC/Digesu, F. E. 21-Mathematics

NAS 8-31343 University of Alabama - Tuscaloosa 1079
Reduction and analysis of data from an integrating TV system
Period *Obligations*
02/01/75-01/31/76 FY76: TOTAL: $8,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Fay, T. D. MSFC/Miller, E. R. 11-Astronomy
MSFC/Duncan, B. J.

NAS 8-31979 University of Alabama - Tuscaloosa 1080
Remote sensing workshop
Period *Obligations*
06/01/76-06/01/77 FY76: $10,150 TOTAL: $10,150
Prin. Invest *NASA Tech. Officer* *CASE Category*
Hughes, T. MSFC/Bensko, J. 13-Physics
MSFC/Paludan, C. T.

NGT 01-002-080 University of Alabama - Tuscaloosa 1081
Summer faculty fellowship program
Period *Obligations*
01/14/71-12/31/76 FY76: TOTAL: $313,359
Prin. Invest *NASA Tech. Officer* *CASE Category*
Barfield, B. F. HQ-P/Carter, C. H. 49-Engr, NEC

NSG 3003 University of South Alabama 1082
Laser Doppler spectrometer method of particle sizing
Period *Obligations*
06/15/74-06/15/76 FY76: TOTAL: $9,744
Prin. Invest *NASA Tech. Officer* *CASE Category*
Weber, F. N., Jr. LERC/Fordyce, J. S. 13-Physics

ALASKA

NAS 5-20803 **University of Alaska - Fairbanks** **1083**
ERTS follow-on investigation
Period *Obligations*
01/21/75-11/21/76 FY76: TOTAL: $50,397
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gedney, L. GSFC/Broderick, J. C. 32-Geological Sci

NAS 5-20915 **University of Alaska - Fairbanks** **1084**
Analysis of data for ERTS follow-on investigation
Period *Obligations*
02/04/75-02/04/77 FY76: TOTAL: $66,325
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lent, P. GSFC/Oseroff, H. 39-Env Sci, NEC

NAS 5-20959 **University of Alaska - Fairbanks** **1085**
Analysis of ERTS data follow-on investigation
Period *Obligations*
02/24/75-11/24/76 FY76: TOTAL: $28,337
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Stringer, W. GSFC/Crump, E. 33-Oceanography

NAS 5-21833 **University of Alaska - Fairbanks** **1086**
ERTS data user investigations
Period *Obligations*
09/13/72-07/30/75 FY76: TOTAL: $469,321
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Belon, A. E. GSFC/Crump, E. W. 31-Atmos Sci

NAS 8-31801 **University of Alaska - Fairbanks** **1087**
Uses of electron beams for atmospheric science and preparations for large vacuum tests
Period *Obligations*
01/13/76-07/12/76 FY76: $20,000 TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Davis, T. N. MSFC/Roberts, W. T. 19-Phys Sci, NEC

NAS 9-13945 **University of Alaska - Fairbanks** **1088**
Apollo/Soyuz test project experiment MA-017-barium cloud
Period *Obligations*
01/21/74-07/31/76 FY76: TOTAL: $117,509
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wescott, E. M. JSC/Baldwin, R. R. 32-Geological Sci
Davis, R. N.

NGL 02-001-092 **University of Alaska - Fairbanks** **1089**
Application of remote sensing data to surveys of the Alaskan environment
Period *Obligations*
07/26/72-06/30/78 FY76: $100,000 TOTAL: $475,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Miller, J. M. HQ-P/Vitale, J. A. 39-Env Sci, NEC
Belon, A. E.

NGR 02-001-087 **University of Alaska - Fairbanks** **1090**
Measurement of electric fields in a rayed auroral arc
Period *Obligations*
03/02/72-01/31/76 FY76: TOTAL: $425,417
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Davis, T. N. HQ-ST/Schmerling, E. R. 13-Physics
HQ-SA/Logan, W.

NSG 2053 **University of Alaska - Fairbanks** **1091**
Design, program planning and operator training for the 1975 NASA/ESA CV-990 assess mission
Period *Obligations*
11/15/74-10/15/76 FY76: $20,000 TOTAL: $67,915
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sivjee, G. G. ARC/Haughney, L. C. 31-Atmos Sci
Romick, G. J. ARC/Neel, C. B.

NSG 7051 **University of Alaska - Fairbanks** **1092**
Study of the relationship between the ring current and magnetosphere substorms
Period *Obligations*
01/01/74-12/31/75 FY76: $7,500 TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Akasofu, S. I. HQ-ST/Schmerling, E. R. 13-Physics

ARIZONA

NCA 2-35601 **Arizona State University** **1093**
Synthesis of optically active polymers
Period *Obligations*
04/01/76-09/30/76 FY76: $5,000 TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Yuen, G. U. ARC/Zill, L. P. 12-Chemistry

NCA 2-35602 **Arizona State University** **1094**
A geological analysis of Martian terrain
Period *Obligations*
05/01/76-09/30/76 FY76: $4,370 TOTAL: $4,370
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Moore, C. B. ARC/Bunch, T. 32-Geological Sci

NGL 03-001-001 **Arizona State University** **1095**
Development of improved procedures for sampling, characterizing & classifying meteorite specimens
Period *Obligations*
04/16/63-02/28/79 FY76: $24,956 TOTAL: $306,323
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Moore, C. B. HQ-SL/French, B. M. 32-Geological Sci
HQ-SL/Flinn, E. A.

ARIZONA (Continued)

NSG 3075 **Arizona State University** **1096**
Study of multiple jet array impingement heat transfer characteristics
Period *Obligations*
07/01/75-05/31/77 FY76: $75,000 TOTAL: $75,000
Prin Invest *NASA Tech Officer* *CASE Category*
Metzger, D. E. LERC/Gaunter, J. W. 41-Aero Engr
Florschuetz, L. W. LERC/Colladay, R. S.

NSG 7019 **Arizona State University** **1097**
Work function evaluation of iron-nickel alloys and other metals for low temperature thermionic energy converters
Period *Obligations*
01/01/74-04/30/77 FY76: $20,000 TOTAL: $35,543
Prin Invest *NASA Tech Officer* *CASE Category*
Jacobson, D. L. LERC/Morris, J. F. 13-Physics

NSG 7040 **Arizona State University** **1098**
A data synthesis proposal to explain the chemical composition of the moon
Period *Obligations*
04/01/74-02/28/77 FY76: $40,268 TOTAL: $102,711
Prin Invest *NASA Tech Officer* *CASE Category*
Larimer, J. W. HQ-SL/Williams, R. J. 32-Geological Sci
Moore, C. B. HQ-SL/Flinn, E. A.

NSG 7217 **Arizona State University** **1099**
Cobalt as an analog for ferrous iron
Period *Obligations*
03/01/76-02/28/77 FY76: $17,406 TOTAL: $17,406
Prin Invest *NASA Tech Officer* *CASE Category*
Holloway, J. R. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 7182 **Northern Arizona University** **1100**
Geological studies in planetology eolian deposits and dune morphology on the Navajo reservation
Period *Obligations*
09/07/75-09/06/76 FY76: $3,000 TOTAL: $3,000
Prin Invest *NASA Tech Officer* *CASE Category*
Cotera, A. S. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Wahmann, R.

NAS 1-14332 **University of Arizona** **1101**
Stratospheric aerosol measurement experiment
Period *Obligations*
03/19/76-10/31/78 FY76: $12,000 TOTAL: $12,000
Prin Invest *NASA Tech Officer* *CASE Category*
Herman, B. M. LARC/McCormick, M. P. 31-Atmos Sci
LARC/McMaster, L. R.

NAS 2-6265 **University of Arizona** **1102**
IPP software & display system
Period *Obligations*
11/01/70-01/31/77 FY76: $172,640 TOTAL: $1,255,907
Prin Invest *NASA Tech Officer* *CASE Category*
Gehrels, A. M. ARC/Hall, C. F. 11-Astronomy
ARC/Porter, D. L.

NAS 2-7839 **University of Arizona** **1103**
Pioneer F/G data analysis of shock waves
Period *Obligations*
10/01/73-06/30/76 FY76: $21,727 TOTAL: $61,108
Prin Invest *NASA Tech Officer* *CASE Category*
Sonett, C. P. ARC/Hall, C. F. 13-Physics

NAS 2-8818 **University of Arizona** **1104**
Pioneer/Venus design and development of solar flux radiometer
Period *Obligations*
06/21/75-08/31/78 FY76: $270,000 TOTAL: $275,000
Prin Invest *NASA Tech Officer* *CASE Category*
Tomasko, M. G. ARC/Hall, C. F. 31-Atmos Sci
Wolfe, W. ARC/Yee, L.

NAS 5-22599 **University of Arizona** **1105**
Cryogenics study
Period *Obligations*
02/09/76-12/09/76 FY76: $23,053 TOTAL: $23,053
Prin Invest *NASA Tech Officer* *CASE Category*
Low, F. J. GSFC/Hymowitz, E. W. 11-Astronomy

NAS 5-23176 **University of Arizona** **1106**
Phase C/D for HECRE-HEAO-A
Period *Obligations*
12/01/72-07/01/76 FY76: TOTAL: $29,770
Prin Invest *NASA Tech Officer* *CASE Category*
Bowen, T. GSFC/Browning, R. K. 11-Astronomy
Delise, D. A.

NAS 8-28661 **University of Arizona** **1107**
Measurement of dimensional stability
Period *Obligations*
06/06/72-06/05/75 FY76: TOTAL: $93,456
Prin Invest *NASA Tech Officer* *CASE Category*
Jacobs, S. F. MSFC/Kurtz, R. L. 13-Physics
MSFC/Moore, W. W., Jr.

NAS 8-29566 **University of Arizona** **1108**
Role of gravity in preparative electrophoresis
Period *Obligations*
02/01/73-11/19/76 FY76: $59,997 TOTAL: $284,884
Prin Invest *NASA Tech Officer* *CASE Category*
Bier, M. MSFC/Allen, R. E. 13-Physics
MSFC/Snyder, R. S.

NAS 8-31192 **University of Arizona** **1109**
Maintenance and operation of the 60' NASA telescope at Mt Lemmon
Period *Obligations*
10/01/74-09/30/76 FY76: $50,455 TOTAL: $106,500
Prin Invest *NASA Tech Officer* *CASE Category*
Sonett, C. P. MSFC/Miller, E. R. 11-Astronomy
MSFC/Lundquist, C. A.

NAS 8-31196 **University of Arizona** **1110**
Replacement of optics for the NASA 1.5 meter telescope
Period *Obligations*
10/18/74-10/10/76 FY76: $18,740 TOTAL: $65,440
Prin Invest *NASA Tech Officer* *CASE Category*
Sonett, C. P. MSFC/Miller, E. R. 11-Astronomy
MSFC/Lundquist, C. A.

NAS 8-31537 **University of Arizona** **1111**
Engineering evaluation of rocket electrophoresis
Period *Obligations*
06/17/75-12/17/75 FY76: TOTAL: $30,000
Prin Invest *NASA Tech Officer* *CASE Category*
Bier, M. MSFC/Allen, R. E. 47-Materials Engr
MSFC/Harwell, R. J.

NAS 8-31948 **University of Arizona** **1112**
Automated analytical electrophoresis apparatus
Period *Obligations*
05/17/76-06/04/77 FY76: $80,000 TOTAL: $80,000
Prin Invest *NASA Tech Officer* *CASE Category*
Bartels, P. H. MSFC/Harwell, R. J. 51-Biology

NAS 9-14692 **University of Arizona** **1113**
Automated computerized pattern recognition in cytology
Period *Obligations*
06/01/75-11/01/76 FY76: $15,439 TOTAL: $35,439
Prin Invest *NASA Tech Officer* *CASE Category*
Bartels, P. H. JSC/Kimsey, S. L. 59-Life Sci, NEC

NAS10-8518 **University of Arizona** **1114**
Thunderstorm electrical field changes and associated meteorological conditions at KSC
Period *Obligations*
02/12/74-04/14/77 FY76: $18,000 TOTAL: $66,000
Prin Invest *NASA Tech Officer* *CASE Category*
Krider, E. P. KSC/Toft, P. D. 31-Atmos Sci
Jacobson, E. A.

NCA 2-40502 **University of Arizona** **1115**
Optimization of solar cells for high intensity illumination
Period *Obligations*
03/01/75-03/31/76 FY76: TOTAL: $14,373
Prin Invest *NASA Tech Officer* *CASE Category*
Call, R. L. ARC/Zill, L. P. 45-Elec Engr
Kerwin, W. J.

NCA 2-40503 **University of Arizona** **1116**
Real-time analysis of wide-band data
Period *Obligations*
05/15/75-03/31/76 FY76: TOTAL: $14,831
Prin Invest *NASA Tech Officer* *CASE Category*
Williams, P. L. ARC/Zill, L. P. 45-Elec Engr

NCA 2-40504 **University of Arizona** **1117**
Investigation of the optimization of parameters
Period *Obligations*
06/15/75-07/15/75 FY76: TOTAL: $3,094
Prin Invest *NASA Tech Officer* *CASE Category*
Thompson, R. I. ARC/Zill, L. P. 49-Engr, NEC

NCA 2-40601 **University of Arizona** **1118**
Radiative transfer, hydrodynamics, and ionization mass loss
Period *Obligations*
07/01/75-08/15/75 FY76: TOTAL: $3,500
Prin Invest *NASA Tech Officer* *CASE Category*
Caroff, L. J. ARC/Zill, L. P. 13-Physics
Scargle, J. D.

NCA 2-40602 **University of Arizona** **1119**
Giant planet models
Period *Obligations*
07/01/75-06/01/76 FY76: TOTAL: $5,040
Prin Invest *NASA Tech Officer* *CASE Category*
Hubbard, W. B., Jr. ARC/Zill, L. P. 11-Astronomy

NCA 2-40604 **University of Arizona** **1120**
Absorption and emission line spectra in quasi stellar objects
Period *Obligations*
06/15/76-09/01/76 FY76: $3,000 TOTAL: $3,000
Prin Invest *NASA Tech Officer* *CASE Category*
Weymann, R. J. ARC/Caroff, L. J. 11-Astronomy

NCA 5-8 **University of Arizona** **1121**
Observations of astronomical phenomena
Period *Obligations*
08/01/75-11/01/75 FY76: $2,000 TOTAL: $2,000
Prin Invest *NASA Tech Officer* *CASE Category*
Dunkelman, L. GSFC/Maran, S. P. 11-Astronomy

NCA 5-12 **University of Arizona** **1122**
Solar, atmospheric optics and image intensifier research and applications
Period *Obligations*
12/10/75-11/01/76 FY76: $4,000 TOTAL: $4,000
Prin Invest *NASA Tech Officer* *CASE Category*
Sonett, C. P. GSFC/Maran, S. P. 11-Astronomy

NCA 5-37 **University of Arizona** **1123**
Observations of astronomical phenomena regarding atmospheric attenuation and sky brightness
Period *Obligations*
12/31/74-11/01/75 FY76: $19,000 TOTAL: $19,000
Prin Invest *NASA Tech Officer* *CASE Category*
Dunkelman, L. GSFC/Maran, S. P. 11-Astronomy

NCA 5-38 **University of Arizona** **1124**
Propellant rocket motors

Period	*Obligations*	
11/26/74-04/30/75	FY76:	TOTAL: $7,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Burke, J. J.	GSFC/Maran, S. P.	19-Phys Sci, NEC

NCA 5-39 **University of Arizona** **1125**
Research task under GSFC/Univ of Arizona master agreement work statement No.8

Period	*Obligations*	
11/25/74-08/01/75	FY76:	TOTAL: $3,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Epps, H. W.	GSFC/Maran, S. P.	19-Phys Sci, NEC

NCA 5-47 **University of Arizona** **1126**
Infrared absorption studies of ice

Period	*Obligations*	
05/07/75-12/31/75	FY76:	TOTAL: $10,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fink, U. W.	GSFC/Pearl, J. C.	11-Astronomy

NCA 5-62 **University of Arizona** **1127**
Observations of comets, atmospheric extinction and image intensifier research and application

Period	*Obligations*	
04/27/76-06/01/77	FY76: $6,000	TOTAL: $6,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sonett, C. P.	GSFC/Maran, S. P.	11-Astronomy

NGL 03-002-002 **University of Arizona** **1128**
Planetary, spectroscopic, selenodetic & physical studies of lunar surface

Period	*Obligations*	
08/12/61-05/31/78	FY76: $96,390	TOTAL: $2,515,850
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sonett, C. P.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGL 03-002-006 **University of Arizona** **1129**
Application of modern automatic control theory to nuclear rocket dynamics & control

Period	*Obligations*	
06/28/63-06/01/74	FY76:	TOTAL: $437,819
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schultz, D. G.	HQ-NS/Schwenk, F. C. HQ-NS/Hintze, A. S.	45-Elec Engr

NGL 03-002-017 **University of Arizona** **1130**
Operation of MV van de Graaff accelerator for basic experiments in atomic optical spectroscopy

Period	*Obligations*	
05/21/64-10/31/77	FY76:	TOTAL: $1,005,061
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bashkin, S.	HQ-SA/Roman, N. G.	11-Astronomy

NGL 03-002-019 **University of Arizona** **1131**
High resolution electron microscopic techniques to study biological material

Period	*Obligations*	
06/07/63-08/31/78	FY76: $30,000	TOTAL: $441,055
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoenig, S. A.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 03-002-032 **University of Arizona** **1132**
Large optical telescope systems suitable for use with manned space systems

Period	*Obligations*	
08/05/64-09/30/76	FY76:	TOTAL: $746,232
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tifft, W. G.	HQ-SA/Roman, N. G. HQ-SA/Boggess, N. W.	11-Astronomy

NGL 03-002-081 **University of Arizona** **1133**
Photometry and polarimetry of minor planets

Period	*Obligations*	
03/14/66-06/30/77	FY76: $30,000	TOTAL: $359,272
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gehrels, T.	HQ-SL/Fellows, R. F. HQ-SL/Donn, B. D.	11-Astronomy

NGL 03-002-122 **University of Arizona** **1134**
Astrometric and astrophysical investigation of comets, minor planets, and satellites

Period	*Obligations*	
02/22/67-04/30/78	FY76: $26,280	TOTAL: $214,295
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roemer, E.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGL 03-002-191 **University of Arizona** **1135**
Lunar surface and planetology study

Period	*Obligations*	
05/16/69-05/31/77	FY76: $48,462	TOTAL: $483,037
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Strom, R. G.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NGL 03-002-313 **University of Arizona** **1136**
Remote sensing applications for state & local government

Period	*Obligations*	
03/07/72-02/28/79	FY76: $100,000	TOTAL: $500,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, J. D.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 03-002-071 **University of Arizona** **1137**
Cosmic ray investigations of elementary particle phenomena at very high energies

Period	*Obligations*	
01/12/66-10/31/75	FY76:	TOTAL: $985,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bowen, T.	HQ-SA/Opp, A. G.	11-Astronomy

ARIZONA (Continued)

NGR 03-002-107 **University of Arizona** **1138**
Basic research in astrophysics and space science
Period *Obligations*
09/01/67-08/31/76 FY76: $50,000 TOTAL: $468,063
Prin. Invest *NASA Tech Officer* *CASE Category*
Hsieh, K. C. HQ-ST/Cauffman, D. P. 13-Physics
HQ-ST/Schmerling, E. R.

NGR 03-002-171 **University of Arizona** **1139**
Analysis of carbonaceous meteorites
Period *Obligations*
10/26/68-09/30/76 FY76: $45,000 TOTAL: $437,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Nagy, B. HQ-SL/Young, R. S. 32-Geological Sci
Urey, H. C.

NGR 03-002-219 **University of Arizona** **1140**
Photopolarimetry of Mercury, Mars, and satellites
Period *Obligations*
02/13/70-11/01/76 FY76: $35,017 TOTAL: $264,367
Prin. Invest *NASA Tech Officer* *CASE Category*
Gehrels, A. M. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGR 03-002-269 **University of Arizona** **1141**
Operation of a 30 cm flying infrared telescope
Period *Obligations*
05/04/71-05/31/77 FY76: $98,999 TOTAL: $358,169
Prin. Invest *NASA Tech Officer* *CASE Category*
Low, F. J. HQ-SA/Boggess, N. B. 11-Astronomy
HQ-SA/Roman, N. G.

NGR 03-002-332 **University of Arizona** **1142**
Infrared spectroscopy of the planets from 1-5.6 micron with the medium-resolution LPL Fourier interferometer
Period *Obligations*
03/05/73-08/30/76 FY76: $97,000 TOTAL: $191,478
Prin. Invest *NASA Tech Officer* *CASE Category*
Larson, H. P. ARC/Cameron, R. M. 11-Astronomy
Fink, E. ARC/Gillespie, C. M., Jr.

NGR 03-002-363 **University of Arizona** **1143**
Diffraction limited camera on the large space telescope
Period *Obligations*
10/01/73-02/29/76 FY76: $3,650 TOTAL: $15,532
Prin. Invest *NASA Tech Officer* *CASE Category*
Serkowski, K. M. GSFC/Sobieski, S. 11-Astronomy
GSFC/Meese, K. J.

NGR 03-002-370 **University of Arizona** **1144**
An investigation of electromagnetic processes in the early solar system with bearing on thermal evolution and fossil magnetism
Period *Obligations*
10/01/73-11/15/76 FY76: $28,983 TOTAL: $124,733
Prin. Invest *NASA Tech Officer* *CASE Category*
Sonett, C. P. HQ-SL/Dwornik, S. E. 32-Geological Sci

NGR 03-002-371 **University of Arizona** **1145**
Far infrared observations of galactic and extra-galactic sources of radiation
Period *Obligations*
09/01/73-01/31/77 FY76: $50,000 TOTAL: $150,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Hoffman, W. F. HQ-SA/Boggess, N. W. 11-Astronomy
Aannestad, P. A.
Campbell, M. F.

NGR 03-002-372 **University of Arizona** **1146**
Silicon intensifier target photon counting spectrograph research
Period *Obligations*
01/01/74-02/28/75 FY76: TOTAL: $23,447
Prin. Invest *NASA Tech Officer* *CASE Category*
Gilbert, G. R. GSFC/Sobieski, S. 11-Astronomy
Weymann, R. J.
Strittmatter, P. A.

NGR 03-002-382 **University of Arizona** **1147**
Determination of atmospheric ozone profiles above 20 km
Period *Obligations*
12/01/73-12/31/75 FY76: TOTAL: $39,900
Prin. Invest *NASA Tech Officer* *CASE Category*
Herman, B. M. GSFC/Heath, D. F. 31-Atmos Sci

NGR 03-002-388 **University of Arizona** **1148**
Lunar sample analysis
Period *Obligations*
02/01/74-01/31/77 FY76: $45,000 TOTAL: $113,700
Prin. Invest *NASA Tech Officer* *CASE Category*
Drake, M. J. JSC/Harris, J. W. 12-Chemistry

NGR 03-002-390 **University of Arizona** **1149**
Mapping structure of galactic center
Period *Obligations*
10/01/73-03/31/77 FY76: $33,800 TOTAL: $89,880
Prin. Invest *NASA Tech Officer* *CASE Category*
Hoffman, W. F. ARC/Cameron, R. M. 11-Astronomy
Harvey, P.

NSG 2042 **University of Arizona** **1150**
Photometric observations between 2 and 35 microns from the C-141
Period *Obligations*
10/24/74-10/31/76 FY76: TOTAL: $25,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Woolf, N. ARC/Cameron, R. M. 11-Astronomy
ARC/Gillespie, C. M., Jr.

NSG 2112 **University of Arizona** **1151**
Inviscid transonic flow computations
Period *Obligations*
11/01/75-11/25/76 FY76: $49,973 TOTAL: $49,973
Prin. Invest *NASA Tech Officer* *CASE Category*
Seebass, A. R. ARC/Ballhaus, W. F. 41-Aero Engr
ARC/Bailey, F. R.

NASA'S UNIVERSITY PROGRAM

ARIZONA (Continued)

NSG 5001 **University of Arizona** **1152**
Large space telescope diffraction limited camera investigations
Period *Obligations*
04/01/74-02/29/76 FY76: $4,094 TOTAL: $16,409
Prin. Invest. *NASA Tech Officer* *CASE Category*
Angel, J. R. GSFC/Sobieski, S. 11-Astronomy
GSFC/Meese, K. J.

NSG 5022 **University of Arizona** **1153**
Investigation of the basic foundation of masers and lasers
Period *Obligations*
09/01/74-09/30/76 FY76: $30,000 TOTAL: $50,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Lamb, W. E., Jr. GSFC/McAvoy, N. 13-Physics

NSG 5023 **University of Arizona** **1154**
Lightning detection study
Period *Obligations*
09/01/74-09/30/76 FY76: $15,000 TOTAL: $30,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Krider, E. P. GSFC/Levine, D. M. 31-Atmos Sci

NSG 5043 **University of Arizona** **1155**
Observational and theoretical studies of the atmosphere of Venus
Period *Obligations*
01/01/75-12/31/76 FY76: $16,000 TOTAL: $31,988
Prin. Invest. *NASA Tech Officer* *CASE Category*
Gehrels, A. M. GSFC/Hansen, J. E. 11-Astronomy
GSFC/Thaddeus, P.

NSG 5046 **University of Arizona** **1156**
Theoretical studies of acquisition of radiative transfer
Period *Obligations*
01/01/75-01/31/76 FY76: TOTAL: $29,900
Prin. Invest. *NASA Tech Officer* *CASE Category*
Herman, B. M. GSFC/Curran, R. J. 31-Atmos Sci

NSG 7011 **University of Arizona** **1157**
Radiation history of meteorites
Period *Obligations*
03/01/74-02/28/77 FY76: $38,449 TOTAL: $81,699
Prin. Invest. *NASA Tech Officer* *CASE Category*
Wilkening, L. L. HQ-SL/French, B. M. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 7014 **University of Arizona** **1158**
Comparison of color composite photography with other lunar data
Period *Obligations*
03/01/74-02/28/75 FY76: TOTAL: $2,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Whitaker, E. A. HQ-SM/Hanley, J. B. 32-Geological Sci
HQ-SM/Roberson, F. I.

NSG 7020 **University of Arizona** **1159**
Investigation of lunar induced and permanent magnetism in the lunar data analysis and synthesis program
Period *Obligations*
03/01/74-12/31/76 FY76: $119,563 TOTAL: $251,854
Prin. Invest. *NASA Tech Officer* *CASE Category*
Sonett, C. P. HQ-SM/Stuart-Alexander, D. E.
32-Geological Sci
Schubert, G. HQ-SL/Flinn, E. A.
Skerchen, W. I.

NSG 7024 **University of Arizona** **1160**
Study of the earth's magnetosphere and solar wind
Period *Obligations*
02/01/74-10/30/76 FY76: $45,000 TOTAL: $145,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Sonett, C. P. HQ-ST/Cauffman, D. P. 13-Physics
HQ-ST/Schmerling, E. R.

NSG 7045 **University of Arizona** **1161**
Interiors of the giant planets
Period *Obligations*
05/22/74-03/31/77 FY76: $30,000 TOTAL: $90,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Hubbard, W. B., Jr. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NSG 7070 **University of Arizona** **1162**
Planetary spectroscopy
Period *Obligations*
06/01/74-05/31/79 FY76: $75,765 TOTAL: $201,714
Prin. Invest. *NASA Tech Officer* *CASE Category*
Fink, U. W. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NSG 7101 **University of Arizona** **1163**
Study structure of astrophysical plasma and turbulent fluctuations
Period *Obligations*
11/18/74-08/31/76 FY76: $40,000 TOTAL: $80,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Jokippi, J. HQ-SA/Sofia, S. 11-Astronomy
HQ-SA/Opp, A. G.

NSG 7114 **University of Arizona** **1164**
Infrared observations of the planets
Period *Obligations*
02/20/75-05/31/77 FY76: TOTAL: $22,867
Prin. Invest. *NASA Tech Officer* *CASE Category*
Rieke, G. H. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NSG 7123 **University of Arizona** **1165**
Jupiter colloquium
Period *Obligations*
02/20/75-01/31/76 FY76: $1 TOTAL: $15,800
Prin. Invest. *NASA Tech Officer* *CASE Category*
Gehrels, A. M. HQ-SL/Fellows, R. F. 11-Astronomy

ARIZONA (Continued)

NSG 7142 **University of Arizona** **1166**
Evaluation of a large format image tube camera/film transport system

Period	*Obligations*	
06/01/75-05/31/77	FY76: $43,750	TOTAL: $43,750
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Tifft, W. G.	HQ-SA/Roman, N. G.	45-Elec Engr

NSG 7146 **University of Arizona** **1167**
Geologic investigation of Mercury from Mariner 10 television data

Period	*Obligations*	
07/01/75-10/31/76	FY76: $40,200	TOTAL: $40,200
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Strom, R. G.	HQ-SL/Dwornik, S. E.	32-Geological Sci

NSG 7168 **University of Arizona** **1168**
Studies in the production of astrophysical magnetic field

Period	*Obligations*	
09/01/75-08/31/76	FY76: $20,000	TOTAL: $20,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Levy, E. H.	HQ-ST/Timothy, A. F.	13-Physics

NSG 7201 **University of Arizona** **1169**
Orbital resonances in the planet-building process

Period	*Obligations*	
04/01/76-03/31/77	FY76: $43,473	TOTAL: $43,473
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Greenberg, R. Hartmann, W. K. Apman, C. H.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7238 **University of Arizona** **1170**
Uranus occultation

Period	*Obligations*	
05/01/76-04/30/77	FY76: $41,580	TOTAL: $41,580
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Hubbard, W. B., Jr.	HQ-SL/Brunk, W. E. HQ/Fellows, R. F.	11-Astronomy

NSG 7246 **University of Arizona** **1171**
Carbonaceous fragments

Period	*Obligations*	
07/01/76-07/30/77	FY76: $17,230	TOTAL: $17,230
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Gehrels, A. M.	HQ-SL/French, B. M. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7249 **University of Arizona** **1172**
High precision polarimetry of meteorites

Period	*Obligations*	
07/01/76-06/30/77	FY76: $30,282	TOTAL: $30,282
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Zellner, B. H.	HQ-SL/French, B. M. HQ-SL/Flinn, E. A.	32-Geological Sci

ARKANSAS

NAS 9-14921 **Harding College** **1173**
Study of optimal training protocols and devices for developing and maintaining physical fitness in females prior to and during space flight

Period	*Obligations*	
03/01/76-02/28/77	FY76: $49,300	TOTAL: $49,300
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Olree, H. D. Smith, C. W.	JSC/Rummel, J. A.	53-Other Medical

NAS 5-20810 **University of Arkansas - Fayetteville** **1174**
ERTS follow-on investigation

Period	*Obligations*	
01/28/75-11/28/76	FY76:	TOTAL: $58,507
Prin. Invest	*NASA Tech Officer*	*CASE Category*
MacDonald, H.	GSFC/Szajna, E. F.	39-Env Sci, NEC

NAS 8-31550 **University of Arkansas - Fayetteville** **1175**
Statistical analyses of multivariate atmospheric variables

Period	*Obligations*	
10/31/75-10/30/76	FY76: $12,485	TOTAL: $12,485
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Carter, M. C.	MSFC/Falls, L. W. ARC/Smith, O. E.	31-Atmos Sci

NAS 8-31771 **University of Arkansas - Fayetteville** **1176**
Data processing and display of laser Doppler dust-devil experimental results

Period	*Obligations*	
01/12/76-09/12/76	FY76: $20,000	TOTAL: $20,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Skeith, R. W. Ashmore, B.	MSFC/Huffaker, R. M. MSFC/Jeffreys, H. B.	31-Atmos Sci

NAS 9-14251 **University of Arkansas - Fayetteville** **1177**
Remote sensing of soil moisture content

Period	*Obligations*	
06/01/74-05/31/77	FY76: $39,500	TOTAL: $78,500
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Waite, W. P.	JSC/Potter, A. E.	19-Phys Sci, NEC

NGL 04-001-007 **University of Arkansas - Fayetteville** **1178**
Application of lasers to instrumentation & measurement techniques

Period	*Obligations*	
06/15/70-02/28/77	FY76: $17,082	TOTAL: $361,781
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Testerman, M. K. Mazumder, M. K.	ARC/Ahtye, W. F. ARC/Seegmiller, H. L.	41-Aero Engr

ARKANSAS (Continued)

NSG 7106 **University of Arkansas - Fayetteville** **1179**
Scalable standard optical sources in VUV emissions from electron impact on metals
Period *Obligations*
02/15/75-02/14/77 FY76: $22,000 TOTAL: $42,006
Prin Invest *NASA Tech Officer* *CASE Category*
Hughes, R. H. HQ-SA/Rosendhal, J. C. 11-Astronomy
HQ-SA/Roman, N. G.

NCA 2-45501 **University of Arkansas - Little Rock** **1180**
Development of flow seeding methods in high speed wind tunnels
Period *Obligations*
03/11/75-03/10/76 FY76: TOTAL: $8,723
Prin Invest *NASA Tech Officer* *CASE Category*
Testerman, M. K. ARC/Zill, L. P. 41-Aero Engr
Mazumder, M. K.

NCA 2-45601 **University of Arkansas - Little Rock** **1181**
Aerosol kinetics in high speed wind tunnels
Period *Obligations*
03/11/76-05/31/77 FY76: $4,306 TOTAL: $4,306
Prin Invest *NASA Tech Officer* *CASE Category*
Testerman, M. K. ARC/Johnson, D. A. 41-Aero Engr

NAS 9-13196 **University of Arkansas - Monticello** **1182**
Geologic structure of shallow maria data analysis
Period *Obligations*
11/10/72-12/31/75 FY76: TOTAL: $42,383
Prin Invest *NASA Tech Officer* *CASE Category*
Dehon, R. A. JSC/Hardee, S. N. 13-Physics

NGR 04-008-001 **University of Arkansas - Monticello** **1183**
Mars geologic mapping MC-29
Period *Obligations*
03/15/73-05/31/76 FY76: $2,350 TOTAL: $15,929
Prin Invest *NASA Tech Officer* *CASE Category*
Dehon, R. A. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NSG 7216 **University of Arkansas - Monticello** **1184**
Thickness of mare basalts: Western mare basins
Period *Obligations*
02/01/76-01/31/77 FY76: $7,321 TOTAL: $7,321
Prin Invest *NASA Tech Officer* *CASE Category*
Dehon, R. A. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 7244 **University of Arkansas - Monticello** **1185**
Mercury geological mapping
Period *Obligations*
06/01/76-05/31/77 FY76: $7,247 TOTAL: $7,247
Prin Invest *NASA Tech Officer* *CASE Category*
Dehon, R. A. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Wahmann, R.

CALIFORNIA

NAS 1-9703 **California Institute of Technology** **1186**
Participation in seismology planning for the Viking 1975 missions
Period *Obligations*
04/08/70-03/31/77 FY76: $215,806 TOTAL: $802,876
Prin Invest *NASA Tech Officer* *CASE Category*
Anderson, D. L. LARC/Williams, T. S., Jr.
39-Env Sci, NEC
LARC/Glenny, W. R.

NAS 1-12311 **California Institute of Technology** **1187**
Participation in science planning for Viking 1975 mission in the area of biology
Period *Obligations*
07/02/73-03/31/77 FY76: $26,900 TOTAL: $157,265
Prin Invest *NASA Tech Officer* *CASE Category*
Horowitz, N. H. LARC/Williams, T. S., Jr. 51-Biology
LARC/Glenny, W. R.

NAS 2-6556 **California Institute of Technology** **1188**
Pioneer F/G data analysis
Period *Obligations*
09/17/71-06/30/76 FY76: $3[illegible]202 TOTAL: $205,949
Prin Invest *NASA Tech Officer* *CASE Category*
Munch, G. ARC/Hall, C. F. 11-Astronomy
ARC/Porter, D. L.

NAS 5-11066 **California Institute of Technology** **1189**
IMP-H&J electron isotope spectrometer experiment
Period *Obligations*
01/12/68-11/31/76 FY76: $60,000 TOTAL: $1,654,321
Prin Invest *NASA Tech Officer* *CASE Category*
Stone, E. C. GSFC/Davis, M. A. 13-Physics

NAS 5-20492 **California Institute of Technology** **1190**
Infrared photometry study
Period *Obligations*
05/10/74-08/31/76 FY76: TOTAL: $45,300
Prin Invest *NASA Tech Officer* *CASE Category*
Neugebauer, G. GSFC/Kelsall, T. N. 31-Atmos Sci

NAS 5-20721 **California Institute of Technology** **1191**
High energy cosmic rays experiment for International Sun/Earth Explorer spacecraft
Period *Obligations*
02/07/75-07/31/80 FY76: $789,000 TOTAL: $834,000
Prin Invest *NASA Tech Officer* *C[illegible] Category*
Stone, L. C. GSFC/Gallagher, W. F. [illegible]3-Physics

CALIFORNIA (Continued)

NAS 5-22555 **California Institute of Technology** 1192

Mission definition study of an astronomical satellite survey in the infrared

Period	*Obligations*	
06/15/75-09/19/76	FY76: $25,760	TOTAL: $25,760
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Neugebauer, G.	GSFC/Hymowitz, E. W.	11-Astronomy

NAS 5-22939 **California Institute of Technology** 1193

Helioscope camera definition study

Period	*Obligations*	
03/10/76-09/10/76	FY76: $25,001	TOTAL: $25,001
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zirin, H.	GSFC/Neupert, W. M.	11-Astronomy

NAS 5-22965 **California Institute of Technology** 1194

Nimbus G earth radiation budget sensor support

Period	*Obligations*	
01/27/76-01/26/79	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ingersoll, A. P.	GSFC/Nelson, D. W.	31-Atmos Sci

NAS 5-23287 **California Institute of Technology** 1195

Instrument definition study for LST

Period	*Obligations*	
08/24/73-09/30/76	FY76: $20,749	TOTAL: $50,697
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Neugebauer, G.	GSFC/Sobieski, S.	11-Astronomy

NAS 5-23315 **California Institute of Technology** 1196

Cosmic X-ray experiment for HEAO-2

Period	*Obligations*	
11/15/73-04/30/78	FY76: $189,746	TOTAL: $496,746
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Garmire, G. P.	GSFC/Wrublik, D. P.	11-Astronomy

NAS 5-23615 **California Institute of Technology** 1197

Extreme ultraviolet and soft X-ray study

Period	*Obligations*	
06/21/76-11/05/76	FY76: $9,002	TOTAL: $9,002
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Garmire, G. P.	GSFC/Weinreb, M. B.	11-Astronomy

NAS 8-27978 **California Institute of Technology** 1198

Design, development & operation of the ACR-7 heavy nuclei experiment under the HEAO program

Period	*Obligations*	
06/23/72-07/15/80	FY76: $41,500	TOTAL: $200,060
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stone, E. C.	MSFC/Krome, H. O. MSFC/Cochran, J.	11-Astronomy

NAS 8-29313 **California Institute of Technology** 1199

Dynamics of unsteady cavitating cascades

Period	*Obligations*	
09/28/72-10/27/76	FY76: $68,000	TOTAL: $289,012
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Acosta, A. J.	MSFC/Gross, L. A. MSFC/Stinson, H. P., Jr.	46-Mech Engr

NGL 05-002-003 **California Institute of Technology** 1200

Basic scientific research on lunar & planetary exploration

Period	*Obligations*	
12/01/59-11/30/78	FY76: $190,345	TOTAL: $2,660,288
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Muhleman, D. O.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGL 05-002-007 **California Institute of Technology** 1201

Space related research in cosmic rays, interplanetary magnetic fields, solar physics, theoretical astrophysics, planetary spectroscopy & infrared astronomy

Period	*Obligations*	
05/20/63-09/30/75	FY76:	TOTAL: $4,645,302
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Neugebauer, G.	HQ-SL/Brunk, W. E.	11-Astronomy

NGL 05-002-034 **California Institute of Technology** 1202

Research in solar flares and the solar atmosphere

Period	*Obligations*	
05/18/65-09/01/76	FY76: $180,000	TOTAL: $2,132,353
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Henry, D. G. Mazumder, M. K.	HQ-ST/Timothy, A. F.	11-Astronomy

NGL 05-002-069 **California Institute of Technology** 1203

Theoretical investigation of planetary interiors

Period	*Obligations*	
06/12/67-02/28/78	FY76:	TOTAL: $553,729
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, D. L.	HQ-SM/Bryson, R. P. HQ-SM/Roberson, F. I.	32-Geological Sci

NGL 05-002-105 **California Institute of Technology** 1204

Shock effects in minerals

Period	*Obligations*	
08/16/68-03/31/79	FY76: $115,853	TOTAL: $753,129
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ahrens, T. J.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NGL 05-002-134 **California Institute of Technology** 1205

Modern astronomical instrument development

Period	*Obligations*	
10/27/69-09/30/78	FY76: $61,000	TOTAL: $539,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Oke, J. B. Dennison, E. W.	HQ-SA/Rosendahl, J. D. HQ-SA/Roman, N. G.	11-Astronomy

NGL 05-002-136 **California Institute of Technology** **1206**
Research on turbomachines
Period *Obligations*
06/02/69-04/30/76 FY76: TOTAL: $248,325
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rannie, W. D. LERC/Sandercock, D. M. 41-Aero Engr

NGL 05-002-140 **California Institute of Technology** **1207**
Research in planetary astronomy
Period *Obligations*
04/11/69-03/31/79 FY76: TOTAL: $383,905
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Munch, G. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGL 05-002-187 **California Institute of Technology** **1208**
Lunar sample analysis
Period *Obligations*
02/09/71-07/31/76 FY76: TOTAL: $655,485
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Silver, L. T. JSC/Harris, J. W. 12-Chemistry

NGL 05-002-188 **California Institute of Technology** **1209**
Lunar sample analysis
Period *Obligations*
02/03/71-01/31/79 FY76: $561,200 TOTAL: $2,953,853
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wasserburg, G. J. JSC/Harris, J. W. 12-Chemistry

NGL 05-002-190 **California Institute of Technology** **1210**
Lunar sample analysis
Period *Obligations*
01/19/71-01/31/79 FY76: $102,460 TOTAL: $726,610
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Epstein, S. JSC/Harris, J. W. 13-Physics

NGL 05-002-207 **California Institute of Technology** **1211**
Research in infrared and X-ray astronomy
Period *Obligations*
02/18/71-09/30/78 FY76: $100,000 TOTAL: $565,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Neugebauer, G. HQ-SA/Boggess, N. W. 11-Astronomy
HQ-SA/Roman, N. G.

NGL 05-002-229 **California Institute of Technology** **1212**
Experimental study of flow about a stalled two-dimensional airflow
Period *Obligations*
05/11/71-05/31/76 FY76: $15,300 TOTAL: $202,620
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Coles, D. E. ARC/Olson, L. E. 41-Aero Engr
Roshko, A. ARC/Rossow, V. J.

NGL 05-002-338 **California Institute of Technology** **1213**
Petrologic and microprobe investigations on isotopically dated lunar samples
Period *Obligations*
02/01/74-01/31/79 FY76: $80,400 TOTAL: $297,112
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Albee, A. L. JSC/Harris, J. W. 13-Physics

NGR 05-002-114 **California Institute of Technology** **1214**
Radio interferometry of Mars and Venus
Period *Obligations*
10/11/68-09/30/76 FY76: $47,005 TOTAL: $277,876
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Muhleman, D. O. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGR 05-002-117 **California Institute of Technology** **1215**
Analysis and evaluation of alternative approaches to photography from a Mercury/Venus flyby
Period *Obligations*
10/01/68-09/30/76 FY76: $60,000 TOTAL: $562,775
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Murray, B. C. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NGR 05-002-121 **California Institute of Technology** **1216**
A study of water metabolism in neurospora crassa
Period *Obligations*
01/01/69-12/31/76 FY76: $55,120 TOTAL: $329,119
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Horowitz, N. H. HQ-SB/Young, R. S. 51-Biology

NGR 05-002-142 **California Institute of Technology** **1217**
Research in solar physics
Period *Obligations*
06/12/69-09/30/75 FY76: TOTAL: $286,333
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Zirin, H. HQ-ST/Timothy, A. F. 11-Astronomy

NGR 05-002-160 **California Institute of Technology** **1218**
Research in particles and fields
Period *Obligations*
10/27/69-09/30/77 FY76: $300,000 TOTAL: $1,945,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vogt, R. E. HQ-SA/Sofia, S. 11-Astronomy
HQ-SA/Opp, A. G.

NGR 05-002-185 **California Institute of Technology** **1219**
Design and supervision of an infrared sky noise survey
Period *Obligations*
06/25/70-06/30/74 FY76: TOTAL: $292,608
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Westphal, J. A. HQ-SL/Brunk, W. E. 11-Astronomy

CALIFORNIA (Continued)

NGR 05-002-256 **California Institute of Technology** **1220**
Study and research on experimental tests of gravitation theory

Period	*Obligations*	
02/23/72-12/31/76	FY76: $45,513	TOTAL: $135,513
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thorne, D.	HQ-SA/Boggess, N. W.	11-Astronomy
	HQ-SA/Roman, N. G.	

NGR 05-002-281 **California Institute of Technology** **1221**
High angular resolution of H-II regions and associated galactic sources

Period	*Obligations*	
03/01/73-08/31/76	FY76: $65,703	TOTAL: $155,663
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Werner, M. W.	ARC/Cameron, R. M.	11-Astronomy
Becklin, E. E.	ARC/Gillespie, C. M., Jr.	

NGR 05-002-284 **California Institute of Technology** **1222**
High angular resolution cosmic X-ray astronomy observations in the energy band 0.15-2Ke and XUV observations of early stars from an attitude controlled rocket

Period	*Obligations*	
03/05/73-09/30/76	FY76: $139,500	TOTAL: $539,106
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Garmire, G. P.	HQ-SA/Opp, A. G.	11-Astronomy

NGR 05-002-294 **California Institute of Technology** **1223**
Analysis of OGO-5 and OGO-7 X-ray data

Period	*Obligations*	
06/27/73-01/31/75	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zirin, H.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 05-002-296 **California Institute of Technology** **1224**
Selected X-ray studies to be performed using data from the UHURU (SAS-A)

Period	*Obligations*	
07/01/73-01/15/75	FY76:	TOTAL: $25,046
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Garmire, G. P.	HQ-ST/Schmerling, E. R.	11-Astronomy

NGR 05-002-303 **California Institute of Technology** **1225**
Systematic search program for new Apollo amor asteroids

Period	*Obligations*	
08/01/73-07/31/76	FY76: $52,900	TOTAL: $113,132
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shoemaker, E. M.	HQ-SL/Dwornik, S. E.	32-Geological Sci
Helin, E. F.	HQ-SL/Wahmann, R.	

NGR 05-002-308 **California Institute of Technology** **1226**
Mars related biological studies

Period	*Obligations*	
03/06/73-08/31/76	FY76: $45,000	TOTAL: $196,870
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Horowitz, N. H.	ARC/Chang, S.	59-Life Sci, NEC
	ARC/De Vincenzi, D. L.	

NGR 05-002-310 **California Institute of Technology** **1227**
Geochemistry of biomolecules

Period	*Obligations*	
03/06/73-06/30/75	FY76:	TOTAL: $90,389
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bonner, J.	HQ-SB/Young, R. S.	32-Geological Sci

NGR 05-002-311 **California Institute of Technology** **1228**
Investigation of low dispersion spectrograph large space telescope

Period	*Obligations*	
10/01/73-06/30/76	FY76: $4,959	TOTAL: $20,802
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Oke, J. B.	GSFC/Sobieski, S.	11-Astronomy
	GSFC/Meese, K. J.	

NGR 05-002-333 **California Institute of Technology** **1229**
Lunar sample analysis

Period	*Obligations*	
02/01/74-01/31/77	FY76: $194,200	TOTAL: $295,300
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tombrello, T. A.	JSC/Harris, J. W.	13-Physics

NGR 05-002-340 **California Institute of Technology** **1230**
Virtual integration of planetary exploration robot

Period	*Obligations*	
12/01/73-01/31/76	FY76:	TOTAL: $70,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ingargiola, G.	HQ-RE/Pontious, C. E.	49-Engr, NEC
Weinstein, M.	JPL/Wedel, J. J.	

NGR 05-002-345 **California Institute of Technology** **1231**
65-100 cm aperture photo-heliograph for the space shuttle

Period	*Obligations*	
10/01/73-09/30/76	FY76: $60,000	TOTAL: $280,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zirin, H.	HQ-ST/Timothy, A. F.	13-Physics

NSG 1005 **California Institute of Technology** **1232**
Utilization of stags to determine knockdown factors from measured initial imperfections

Period	*Obligations*	
07/01/74-09/30/76	FY76: $30,305	TOTAL: $57,222
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Babcock, C. D., Jr.	LARC/Davis, R. C.	41-Aero Engr
Arbocz, J.	LARC/Stephens, W. B.	

NSG 2154 **California Institute of Technology** **1233**
Synthesis of a composite reverse osmosis membrane at one atmosphere in an electric discharge

Period	*Obligations*	
05/01/76-10/31/76	FY76: $6,562	TOTAL: $6,562
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shair, F.	ARC/Wydeven, T., Jr.	12-Chemistry

NSG 5058 California Institute of Technology 1234
Seismotectonic studies of areas of major world-wide earthquakes utilizing ERTS images
Period *Obligations*
04/01/75-03/31/76 FY76: TOTAL: $8,034
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Allen, C. R. GSFC/Lowman, P. D. 39-Env Sci, NEC

NSG 7023 California Institute of Technology 1235
Synthesis of particle exposure data for lunar samples
Period *Obligations*
04/01/74-01/31/76 FY76: $15,900 TOTAL: $52,832
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Burnett, D. S. HQ-SM/Stuart-Alexander, D. E.
32-Geological Sci
Woolum, D. S. HQ-SM/Roberson, F. I.

NSG 7084 California Institute of Technology 1236
Technical evaluation and development of the ion probe
Period *Obligations*
07/01/74-06/30/76 FY76: $41,107 TOTAL: $82,214
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wasserburg, G. J. HQ-SM/Bryson, R. P. 32-Geological Sci
HQ-SM/Roberson, F. I.

NSG 7094 California Institute of Technology 1237
Reduction of Mariner 71 infrared radiometer data
Period *Obligations*
07/01/74-09/30/76 FY76: TOTAL: $18,567
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Neugebauer, G. HQ-SL/Fellows, R. F. 32-Geological Sci
HQ-SL/Brunk, W. E.

NSG 7112 California Institute of Technology 1238
Research on time-sequenced mosaics of the ultra-violet images of Venus clouds obtained by Mariner 10
Period *Obligations*
07/01/74-03/31/76 FY76: TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Murray, B. C. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NSG 7125 California Institute of Technology 1239
Scientific rationale and feasibility of developing a planetary scanning electron microscope
Period *Obligations*
04/01/75-09/30/76 FY76: TOTAL: $15,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Albee, A. L. HQ-SL/Dwornik, S. E.
19-Phys Sci, NEC

NSG 7129 California Institute of Technology 1240
Relationship of impact cratering to the evolution of the lunar surface
Period *Obligations*
04/01/75-03/31/79 FY76: $136,829 TOTAL: $176,829
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ahrens, T. J. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 7136 California Institute of Technology 1241
Millimeter wave interferometry
Period *Obligations*
02/01/75-01/31/76 FY76: TOTAL: $50,150
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Leighton, R. B. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NSG 7140 California Institute of Technology 1242
Support for reduction of joint infrared and Copernicus X-ray observations of Cygnus X-3
Period *Obligations*
05/01/75-04/30/76 FY76: TOTAL: $5,154
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Neugebauer, G. HQ-SA/Boggess, N. W. 11-Astronomy
HQ-SA/Roman, N. G.

NSG 7155 California Institute of Technology 1243
Data analysis of Mariner 10 imagery of Mercury
Period *Obligations*
05/01/75-06/30/76 FY76: $35,000 TOTAL: $35,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Murray, B. C. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NSG 7160 California Institute of Technology 1244
Development of design criteria for penetrator emplacement of a multi-station seismic experiment on Mars
Period *Obligations*
07/01/75-12/31/76 FY76: $32,196 TOTAL: $32,196
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, D. L. HQ-SL/Dwornik, S. E. 32-Geological Sci

NSG 7195 California Institute of Technology 1245
The origin of the chemical elements of stellar flashes
Period *Obligations*
04/01/76-12/15/76 FY76: $25,000 TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Christysackmann, I. J. HQ-SA/Roman, N. G. 11-Astronomy
HQ-SA/Rosendhal, J. D.

NSG 7202 California Institute of Technology 1246
Laboratory partitioning studies relevant to the interpretation of lunar and meteoritic trace element data
Period *Obligations*
02/01/76-01/31/77 FY76: $68,667 TOTAL: $68,667
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Burnett, D. S. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NASA'S UNIVERSITY PROGRAM
CALIFORNIA (Continued)

NSG 9019 **California Institute of Technology** 1247

Shock compression measurements on lunar samples

Period	*Obligations*	
10/01/74-01/31/77	FY76: $65,000	TOTAL: $156,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ahrens, T. J.	JSC/Harris, J. W.	19-Phys Sci, NEC

NCA 2-678601 **California Polytechnic State Univ.** 1248

Effects of data acquisition time skew

Period	*Obligations*	
06/13/76-09/02/76	FY76: $6,260	TOTAL: $6,260
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grimes, J. E.	ARC/Maisel, M. D.	21-Mathematics

NCA 2-720601 **California State College, Sonoma** 1249

Study of the Panoche valley Ophiolite complex

Period	*Obligations*	
07/01/75-07/31/76	FY76:	TOTAL: $3,937
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, T.	ARC/Zill, L. P.	99-Multi-Discip

NASW 2835 **California State University - Chico** 1250

Spacemobile operation and maintenance, space science education project

Period	*Obligations*	
07/01/75-06/30/76	FY76: $1,016,633	TOTAL: $1,016,633
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-FE/Rich, W. B.	99-Multi-Discip

NCA 2-110502 **California State University - Chico** 1251

Effect of restricting the horizontal field of view on pilot performance

Period	*Obligations*	
09/01/74-01/31/76	FY76:	TOTAL: $1,250
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Huntsinger, R.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-110504 **California State University - Chico** 1252

Aircraft interior composite panels

Period	*Obligations*	
06/15/75-09/15/75	FY76: $291	TOTAL: $4,091
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sours, C. F.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-110601 **California State University - Chico** 1253

Jupiter radiation model development

Period	*Obligations*	
12/15/75-02/01/76	FY76: $730	TOTAL: $730
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zeilenga, J. H.	ARC/Zill, L. P.	11-Astronomy

NCA 2-110602 **California State University - Chico** 1254

Modeling the dispersal of dothistroma pini and endocronartium Harkness II

Period	*Obligations*	
04/01/76-03/31/77	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Burleigh, J. R.	ARC/Sanesta, P. D.	51-Biology

NSG 2163 **California State University - Chico** 1255

Flammability and toxicity of various laminated composite panels for aircraft objective

Period	*Obligations*	
05/20/76-08/19/76	FY76: $3,176	TOTAL: $3,176
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sours, R.	ARC/Kourtides, D. A.	12-Chemistry
Walty, R. J.	ARC/Gilwee, W. J.	

NCA 2-253601 **California State University - Fullerton** 1256

Structure-function relationships in thermophile membranes

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $6,802
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Esser, A. E.	ARC/Zill, L. P.	51-Biology

NGR 05-071-008 **California State University - Fullerton** 1257

Electrocyclic reactions in the interstellar media

Period	*Obligations*	
04/25/73-05/31/75	FY76:	TOTAL: $48,502
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wegner, P. A.	HQ-SB/Young, R. S.	12-Chemistry
Bailey, D. T.		

NCA 2-290401 **California State Univ. -Hayward** 1258

Development of testing and training programs to produce groups of professionals for high-stress missions

Period	*Obligations*	
06/01/74-06/18/75	FY76: $250	TOTAL: $2,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sieber, J. E.	ARC/Zill, L. P.	61-Biol Aspects

NCA 2-290501 **California State Univ. -Hayward** 1259

Racemization of amino acids in marine sediment as paleo environmental indicator

Period	*Obligations*	
08/01/75-07/31/76	FY76:	TOTAL: $4,045
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Warnke, D. E.	ARC/Zill, L. P.	32-Geological Sci

NCA 2-290601 **California State Univ.- Hayward** 1260

Racemization of amino acids in marine sediments

Period	*Obligations*	
08/01/75-07/31/76	FY76: $3,795	TOTAL: $3,795
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Warnke, D. A.	ARC/Zill, L. P.	33-Oceanography

NASA'S UNIVERSITY PROGRAM

CALIFORNIA (Continued)

NCA 2-290602 California State Univ. -Hayward 1261

Temperature effects on bacterial lipid metabolism

Period	*Obligations*	
08/01/75-07/31/76	FY76: $4,210	TOTAL: $4,210
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smith, P.	ARC/Zill, L. P.	51-Biology

NAS 1-13656 California State University - Long Beach 1262

Unsteady turbulent flows

Period	*Obligations*	
10/24/74-03/10/76	FY76:	TOTAL: $29,997
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cebeci, T.	ARC/Carr, L. W. LARC/Young, W. H., Jr.	41-Aero Engr

NAS 1-14276 California State University - Long Beach 1263

Study of unsteady turbulent flow calculation

Period	*Obligations*	
12/30/75-06/30/77	FY76: $29,977	TOTAL: $29,977
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cebeci, T.	LARC/Young, W. H., Jr. ARC/Carr, L. W.	41-Aero Engr

NCA 2-385502 California State University - Los Angeles 1264

Photochemistry of the lower Jovian atmosphere

Period	*Obligations*	
01/01/75-03/31/76	FY76: $5,200	TOTAL: $10,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Goldwhite, H.	ARC/Zill, L. P.	11-Astronomy

NSG 7229 California State University - Los Angeles 1265

Development of a direct contact heat exchanger for application in power generation systems utilizing geothermal brines

Period	*Obligations*	
06/15/76-06/14/77	FY76: $25,000	TOTAL: $25,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Maniv, R.	HQ-P/Pohly, J. G. JPL/Nakamura, Y.	46-Mech Engr

NSG 3065 California State University - Northridge 1266

Study of rolling element dynamic interactions with separators and raceway paths

Period	*Obligations*	
05/15/75-10/14/77	FY76: $25,000	TOTAL: $69,980
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nypan, L. J.	LERC/Coe, H. H. LERC	46-Mech Engr

NGR 05-058-003 California State University - Sacramento 1267

Development of combustion stability specifications and verification procedures for liquid propellant rocket engines

Period	*Obligations*	
02/23/72-07/29/77	FY76: $9,988	TOTAL: $24,222
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reardon, F. H.	LERC/Priem, R. J.	42-Astro Engr

NSG 2005 De Anza College 1268

Geotechnical investigation of landslide

Period	*Obligations*	
01/15/74-12/31/76	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Greisen, K. I.	ARC/Blanchard, M. B.	32-Geological Sci

NAS 2-8925 Harvey Mudd College 1269

Generation and analysis of a mono-dispersed aerosol

Period	*Obligations*	
06/06/75-09/30/76	FY76: $21,297	TOTAL: $28,597
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Woodson, T. T.	ARC/Orloff, K.	41-Aero Engr

NSG 2159 Pepperdine University 1270

An assessment of attitudes in the aeronautical community on conducting aeronautical research and technology in government laboratories

Period	*Obligations*	
06/01/76-08/31/77	FY76: $14,532	TOTAL: $14,532
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Album, H. J.	ARC/Hornby, H.	75-Political Sci

NAS 1-11854 Pomona College 1271

Participation in inorganic chemistry planning for the Viking 1975 missions

Period	*Obligations*	
08/09/72-03/31/77	FY76: $10,945	TOTAL: $28,380
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baird, A. K.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	12-Chemistry

NGR 05-084-002 Sacramento City College 1272

Correlation of type III radio events with hard X-ray and H data and analysis of in-process phase of solar flares

Period	*Obligations*	
11/01/73-01/31/75	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vorpahl, J. A.	HQ-ST/Timothy, A. F.	11-Astronomy

NAS 5-23249 San Diego State University 1273

Atmospheric transmission measurements

Period	*Obligations*	
05/25/73-09/25/76	FY76:	TOTAL: $43,998
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Angione, R. J.	GSFC/Roosen, R. G.	11-Astronomy

NSG 2138 **San Diego State University** **1274**

Determination and evaluation of historic volcanic aerosol and ozone levels

Period	*Obligations*	
04/01/76-03/31/77	FY76: $24,750	TOTAL: $24,750
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Angione, R. J.	ARC/Pollack, J. B. ARC/Farlow, N. H.	31-Atmos Sci

NSG 7026 **San Diego State University** **1275**

Thermodynamic models of lunar meteorite impact incorporating a target porosity parameter

Period	*Obligations*	
06/01/74-05/31/77	FY76: $32,849	TOTAL: $85,728
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rehfuss, D. E.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NCA 2-660410 **San Francisco State University** **1276**

An investigation of binding between nucleotides and amino acids: an experiment on the origin of life

Period	*Obligations*	
06/01/74-10/01/75	FY76:	TOTAL: $4,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Orenberg, J. B.	ARC/Zill, L. P.	12-Chemistry

NCA 2-660411 **San Francisco State University** **1277**

Investigation and development of an electronic system for the measurement of activity

Period	*Obligations*	
06/01/74-09/01/75	FY76:	TOTAL: $4,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Catalano, G. T.	ARC/Zill, L. P.	45-Elec Engr

NCA 2-660501 **San Francisco State University** **1278**

Use of campus facilities

Period	*Obligations*	
08/01/74-07/31/76	FY76: $59,076	TOTAL: $113,012
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Eisenberg, L. Summerfelt, J. P.	ARC/Zill, L. P.	99-Multi-Discip

NCA 2-660502 **San Francisco State University** **1279**

Numerical solution of systems of first order partial differential equations

Period	*Obligations*	
01/01/75-06/15/75	FY76:	TOTAL: $4,319
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shaw, S. J.	ARC/Zill, L. P.	21-Mathematics

NCA 2-660504 **San Francisco State University** **1280**

Numerical studies of early phases of protosetellar evolution

Period	*Obligations*	
06/01/75-06/01/76	FY76:	TOTAL: $4,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hagar, C. Bodenheimer, P.	ARC/Zill, L. P.	11-Astronomy

NCA 2-660505 **San Francisco State University** **1281**

An electron spin resonance spin-label study

Period	*Obligations*	
06/01/75-08/31/75	FY76:	TOTAL: $2,256
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Plachy, W. Z.	ARC/Zill, L. P.	13-Physics

NCA 2-660506 **San Francisco State University** **1282**

Formation of organic microstructures from simple prebiotic compounds

Period	*Obligations*	
05/15/75-05/14/76	FY76: $6,000	TOTAL: $7,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Auleb, L.	ARC/Zill, L. P.	51-Biology

NCA 2-660601 **San Francisco State University** **1283**

Operational methods in measurement of biomechanical motion

Period	*Obligations*	
01/01/76-12/31/76	FY76: $9,219	TOTAL: $9,219
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chealano, G. T.	ARC/Zill, L. P.	59-Life Sci, NEC

NCA 2-660602 **San Francisco State University** **1284**

Binding selectivity between nucleotides & amino acids

Period	*Obligations*	
09/01/75-08/31/76	FY76: $8,000	TOTAL: $8,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Orenberg, J. B.	ARC/Zill, L. P.	51-Biology

NCA 2-660603 **San Francisco State University** **1285**

Effects of magnetic fields on evolution of protostars

Period	*Obligations*	
06/01/76-06/01/77	FY76: $7,000	TOTAL: $7,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hagar, C.	ARC/Zill, L. P.	11-Astronomy

NSG 7234 **San Francisco State University** **1286**

Melanoidin and aldocyanoin microspheres: new model systems for precellular chemical evolution

Period	*Obligations*	
06/01/76-05/31/77	FY76: $7,450	TOTAL: $7,450
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kenyon, D. H.	HQ-SB/Young, R. S.	12-Chemistry

NAS 2-8983 **San Jose State University** **1287**

Development of management information system for scheduling and cost control

Period	*Obligations*	
08/14/75-08/13/76	FY76: $20,065	TOTAL: $20,065
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Neidleman, L. D.	ARC/Eddy, R. E.	99-Multi-Discip

CALIFORNIA (Continued)

NCA 2-675304 **San Jose State University** **1288**
Chemical evolution and the origin of life
Period *Obligations*
01/02/73-10/31/75 FY76: TOTAL: $3,838
Prin. Invest. *NASA Tech. Officer* *CASE Category*
West, M. W. ARC/Zill, L. P. 59-Life Sci, NEC

NCA 2-675317 **San Jose State University** **1289**
Fire-resistant aircraft structures
Period *Obligations*
04/01/73-04/16/76 FY76: TOTAL: $12,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Holnstrom, F. ARC/Zill, L. P. 47-Materials Engr

NCA 2-675401 **San Jose State University** **1290**
Effective ways to train journalism students to report science activities
Period *Obligations*
09/01/73-06/30/76 FY76: $250 TOTAL: $5,050
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brown, D. E. ARC/Zill, L. P. 73-History

NCA 2-675406 **San Jose State University** **1291**
Aeronautical structures. Design activity
Period *Obligations*
10/23/73-05/31/76 FY76: $5,000 TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Leclair, R. ARC/Zill, L. P. 41-Aero Engr

NCA 2-675409 **San Jose State University** **1292**
Synthesis characterization and processing of bismaleimide resins
Period *Obligations*
03/01/74-06/30/75 FY76: TOTAL: $3,236
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Neptune, J. ARC/Zill, L. P. 12-Chemistry

NCA 2-675410 **San Jose State University** **1293**
Thermal-oxidative degradation study on elastomer for use in aircraft tires
Period *Obligations*
03/01/74-10/01/75 FY76: $1,499 TOTAL: $5,999
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Neptune, J. ARC/Zill, L. P. 41-Aero Engr

NCA 2-675411 **San Jose State University** **1294**
Laboratory scale fire test facilities
Period *Obligations*
02/01/74-09/30/75 FY76: TOTAL: $5,400
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sharlstein, H. ARC/Zill, L. P. 41-Aero Engr

NCA 2-675413 **San Jose State University** **1295**
Neutron energy spectra and dose rates at aircraft altitudes
Period *Obligations*
05/01/74-07/31/75 FY76: $3,128 TOTAL: $7,628
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tucker, A. B. ARC/Zill, L. P. 41-Aero Engr

NCA 2-675414 **San Jose State University** **1296**
Artificial meteor ablation products
Period *Obligations*
06/01/74-12/31/75 FY76: TOTAL: $1,778
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Maddock, M. E. ARC/Zill, L. P. 19-Phys Sci, NEC

NCA 2-675505 **San Jose State University** **1297**
Fire suppression and control systems for aircraft survivability
Period *Obligations*
09/01/74-06/30/75 FY76: TOTAL: $15,989
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Myronuk, D. J. ARC/Zill, L. P. 41-Aero Engr

NCA 2-675506 **San Jose State University** **1298**
Study of the toxic effect of ammonia on microorganisms
Period *Obligations*
09/01/74-01/31/76 FY76: $3,051 TOTAL: $8,551
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Haight, R. D. ARC/Zill, L. P. 51-Biology

NCA 2-675509 **San Jose State University** **1299**
Two and three dimensional chemical/dynamical models of the stratosphere and mesosphere
Period *Obligations*
06/01/75-06/01/76 FY76: TOTAL: $15,320
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Riegel, C. A. ARC/Zill, L. P. 31-Atmos Sci

NCA 2-675511 **San Jose State University** **1300**
Mechanisms of aspirin and stress involvement in the pathogenesis of gastric ulceration
Period *Obligations*
03/01/75-04/30/76 FY76: $4,500 TOTAL: $14,300
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sawrey, J. M. ARC/Zill, L. P. 53-Other Medical

NCA 2-675512 **San Jose State University** **1301**
Cost effective analysis of communication and contract monitoring procedures
Period *Obligations*
01/01/75-12/31/75 FY76: TOTAL: $8,429
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Monge, P. R. ARC/Zill, L. P. 99-Multi-Discip

NCA 2-675513 **San Jose State University** **1302**
Improving utilization and efficiency of panel mesoscale meterology program

Period	*Obligations*	
01/20/75-01/20/76	FY76:	TOTAL: $6,100
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Leonard, T. E.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-675514 **San Jose State University** **1303**
Investigations into the Johnson and Vand program for identification of multiphase powder diffraction data

Period	*Obligations*	
03/01/75-01/31/76	FY76: $3,253	TOTAL: $4,893
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, D. Kyte, F. T.	ARC/Zill, L. P.	13-Physics

NCA 2-675515 **San Jose State University** **1304**
Nutrition and calcium homeostasis

Period	*Obligations*	
01/01/75-12/31/75	FY76: $2,827	TOTAL: $7,827
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tseng, R.	ARC/Zill, L. P.	53-Other Medical

NCA 2-675518 **San Jose State University** **1305**
Applying computer/scanner land-use data in a mesoscale meterology program

Period	*Obligations*	
03/15/75-01/30/76	FY76:	TOTAL: $9,724
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ellesen, R.	ARC/Zill, L. P.	31-Atmos Sci

NCA 2-675520 **San Jose State University** **1306**
Parameterization and boundary layer processes

Period	*Obligations*	
04/01/75-03/31/76	FY76:	TOTAL: $9,950
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Miller, A.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-675521 **San Jose State University** **1307**
Assessment of toxic threat

Period	*Obligations*	
03/17/75-07/17/75	FY76:	TOTAL: $5,463
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Young, W.	ARC/Zill, L. P.	51-Biology

NCA 2-675601 **San Jose State University** **1308**
Fire suppression and control systems

Period	*Obligations*	
07/01/75-12/31/75	FY76:	TOTAL: $15,319
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Myronuk, D. J.	ARC/Zill, L. P.	49-Engr, NEC

NCA 2-675602 **San Jose State University** **1309**
Neutron energy spectra and dose rates at aircraft altitudes

Period	*Obligations*	
08/01/75-07/31/76	FY76: $14,972	TOTAL: $14,972
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tucker, A. B.	ARC/Zill, L. P.	13-Physics

NCA 2-675603 **San Jose State University** **1310**
Deoxyribonucleic acid homologies among bacteria isolates

Period	*Obligations*	
08/01/75-07/31/76	FY76: $2,500	TOTAL: $2,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ballard, R.	ARC/Zill, L. P.	51-Biology

NCA 2-675605 **San Jose State University** **1311**
Literature surveillance and bibliographic preparation

Period	*Obligations*	
11/01/75-10/31/76	FY76: $4,497	TOTAL: $4,497
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pefley, R. K.	ARC/Zill, L. P.	99-Multi-Discip

NCA 2-675606 **San Jose State University** **1312**
Utilization and efficiency of panel flutter analytical capabilities

Period	*Obligations*	
01/20/76-01/20/77	FY76: $5,500	TOTAL: $5,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Leonard, T. E.	ARC/Gaspers, P. A., Jr.	41-Aero Engr

NCA 2-675607 **San Jose State University** **1313**
Numerical model of soil moisture content

Period	*Obligations*	
10/01/75-06/30/76	FY76: $5,000	TOTAL: $5,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bornstein, R. D.	ARC/Zill, L. P.	32-Geological Sci

NCA 2-675608 **San Jose State University** **1314**
Enrichment for microaerophilic and/or anaerobic methane

Period	*Obligations*	
01/01/76-01/01/77	FY76: $1,500	TOTAL: $1,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grilione, P.	ARC/Zill, L. P.	12-Chemistry

NCA 2-675610 **San Jose State University** **1315**
Nutrition and calcium homeostasis

Period	*Obligations*	
01/01/76-12/31/76	FY76: $8,500	TOTAL: $8,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Theng, R.	ARC/Zill, L. P.	51-Biology

NCA 2-675611 **San Jose State University** **1316**
Fire suppression and control systems

Period	*Obligations*	
01/01/76-05/31/76	FY76: $11,790	TOTAL: $11,790
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Myronuk, D. J.	ARC/Zill, L. P.	49-Engr, NEC

NCA 2-675612 **San Jose State University** **1317**
Artificial ablation of the Murchison (C2) meteor

Period	Obligations	
02/01/76-01/31/77	FY76: $7,400	TOTAL: $7,400
Prin. Invest.	NASA Tech. Officer	CASE Category
Maddock, M. E.	ARC/Zill, L. P.	11-Astronomy

NCA 2-675613 **San Jose State University** **1318**
An investigation of soil modification

Period	Obligations	
02/01/76-01/31/77	FY76: $6,000	TOTAL: $6,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Maddock, M. E.	ARC/Blanchard, M. B.	32-Geological Sci

NCA 2-675614 **San Jose State University** **1319**
Multi-dimensional chemical/dynamical models of stratosphere

Period	Obligations	
06/01/76-06/01/77	FY76: $15,800	TOTAL: $15,800
Prin. Invest.	NASA Tech. Officer	CASE Category
Riegel, C. A.	ARC/Zill, L. P.	31-Atmos Sci

NCA 2-675615 **San Jose State University** **1320**
Role of histamine in regulation of stress response

Period	Obligations	
05/01/76-04/30/77	FY76: $12,300	TOTAL: $12,300
Prin. Invest.	NASA Tech. Officer	CASE Category
Sawrey, J. M.	ARC/Zill, L. P.	51-Biology

NCA 2-675616 **San Jose State University** **1321**
Design and construction of a test furnace

Period	Obligations	
04/26/76-04/25/77	FY76: $16,000	TOTAL: $16,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Sharfstein, H.	ARC/Mansfield, J. A.	49-Engr, NEC

NCA 2-675618 **San Jose State University** **1322**
Chemistry of fire extinguishment materials

Period	Obligations	
02/01/76-08/31/76	FY76: $16,000	TOTAL: $16,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Mayer, L. A.	ARC/Altman, R. L.	47-Materials Engr

NGL 05-046-002 **San Jose State University** **1323**
Angular acceleration in man

Period	Obligations	
09/01/67-08/31/78	FY76: $185,395	TOTAL: $776,278
Prin. Invest.	NASA Tech. Officer	CASE Category
Clark, W. B.	ARC/Stewart, J. D.	69-Psych, NEC

NGR 05-046-011 **San Jose State University** **1324**
Investigation of transport parameters relating to hyperfiltration for waste water purification

Period	Obligations	
04/01/70-09/19/76	FY76: $35,999	TOTAL: $232,318
Prin. Invest.	NASA Tech. Officer	CASE Category
Spitze, L. A. Ballou, E. V.	ARC/Wydeven, T., Jr.	12-Chemistry

NSG 2047 **San Jose State University** **1325**
Study of planetary meteorology

Period	Obligations	
09/15/74-09/14/76	FY76: $6,550	TOTAL: $24,363
Prin. Invest.	NASA Tech. Officer	CASE Category
Riegel, C. A.	ARC/Reynolds, R. T.	11-Astronomy

NSG 2066 **San Jose State University** **1326**
The development of superoxides as improved oxygen sources for breathing apparatus

Period	Obligations	
01/20/75-06/19/77	FY76: $34,454	TOTAL: $64,397
Prin. Invest.	NASA Tech. Officer	CASE Category
Spitze, L. A. Ballou, E. V.	ARC/Wydeven, T., Jr.	12-Chemistry

NSG 2090 **San Jose State University** **1327**
Oxygen effects and early biochemical evolution: acetyl-coa synthetases in yeast

Period	Obligations	
06/01/75-05/30/77	FY76: $47,000	TOTAL: $47,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Neptune, J. A. Satyanarayana, T. Volkmann, C. M.	ARC/Klein, H. P.	51-Biology

NSG 2093 **San Jose State University** **1328**
Thermal stability and degradation of fire-resistant candidate polymers for aircraft interiors

Period	Obligations	
08/01/75-07/31/76	FY76: $25,500	TOTAL: $25,500
Prin. Invest.	NASA Tech. Officer	CASE Category
Neptune, J. A. Hsu, M. S.	ARC/Kourtides, D. A. ARC/Golub, M. A.	12-Chemistry

NSG 2105 **San Jose State University** **1329**
Study of toxicity of pyrolysis effluent of fire resistant polymers for aircraft interiors

Period	Obligations	
08/01/75-04/30/77	FY76: $22,999	TOTAL: $22,999
Prin. Invest.	NASA Tech. Officer	CASE Category
Young, W. Young, J. H.	ARC/Kourtides, D. A. ARC/Parker, J. A.	43-Chem Engr

CALIFORNIA (Continued)

NSG 2111 **San Jose State University** **1330**
Nuclear magnetic resonance study of oxidation of unsaturated elastomers

Period	*Obligations*	
10/01/75-09/30/76	FY76: $12,070	TOTAL: $12,070
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Neptune, J. A. Rosenberg, M. L.	ARC/Bolub, M. A. ARC/Parker, J. A.	12-Chemistry

NSG 2130 **San Jose State University** **1331**
Two-dimensional stratospheric model modification

Period	*Obligations*	
02/01/76-09/30/76	FY76: $15,483	TOTAL: $15,483
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Riegel, C. A.	ARC/Whitten, R. C. ARC/Reynolds, R. T.	31-Atmos Sci

NAS 1-9682 **Stanford University** **1332**
Participation in imaging planning for the Viking 1975 missions

Period	*Obligations*	
03/24/70-03/31/77	FY76: $163,643	TOTAL: $446,152
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Levinthal, E. C.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	99-Multi-Discip

NAS 1-9692 **Stanford University** **1333**
Participation in the biology planning for the Viking 1975 missions

Period	*Obligations*	
04/13/70-03/31/77	FY76: $23,074	TOTAL: $45,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lederberg, J.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	51-Biology

NAS 1-9701 **Stanford University** **1334**
Participation in the radio science planning for the Viking 1975 missions

Period	*Obligations*	
04/21/70-03/31/77	FY76: $98,646	TOTAL: $224,250
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tyler, G. L.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	45-Elec Engr

NAS 2-6706 **Stanford University** **1335**
Electron microscope services

Period	*Obligations*	
12/06/71-04/13/77	FY76: $20,000	TOTAL: $125,849
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bensch, K. G.	ARC/Miquel, J.	51-Biology

NAS 2-8898 **Stanford University** **1336**
Selected studies in research and development management techniques

Period	*Obligations*	
06/09/75-12/09/76	FY76: $8,443	TOTAL: $63,958
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pederson, C. A.	ARC/Barnett, R. M. ARC/Eddy, R. E.	75-Political Sci

NAS 2-9002 **Stanford University** **1337**
Development of control systems concept for a video internal pointing system

Period	*Obligations*	
11/18/75-09/30/76	FY76: $31,556	TOTAL: $31,556
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Powell, J. D.	ARC/Lorell, K. R.	45-Elec Engr

NAS 2-9083 **Stanford University** **1338**
Study of the applicability of integrated circuit sensor technology to general aviation orientation estimation

Period	*Obligations*	
12/01/75-08/30/76	FY76: $16,463	TOTAL: $16,463
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Debra, D. B.	ARC/Denery, D. G.	41-Aero Engr

NAS 3-14336 **Stanford University** **1339**
Research for the fundamental study of full-coverage film cooling

Period	*Obligations*	
07/13/71-01/12/77	FY76: $64,900	TOTAL: $265,100
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kays, W. M.	LERC/Colladay, R. S.	41-Aero Engr

NAS 5-10102 **Stanford University** **1340**
Radio propagation studies of the ionosphere

Period	*Obligations*	
06/27/66-02/01/77	FY76:	TOTAL: $395,897
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Villard, O. G.	GSFC/Baker, J.	45-Elec Engr

NAS 5-20871 **Stanford University** **1341**
Experimental study of interactions in the magnetosphere between energetic particles and VLF waves

Period	*Obligations*	
02/11/75-12/11/79	FY76: $241,000	TOTAL: $401,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Helliwell, R. A.	GSFC/Davis, M. A.	13-Physics

NAS 5-20987 **Stanford University** **1342**
Design study for energetic gamma ray experiment telescope

Period	*Obligations*	
04/29/75-01/01/77	FY76:	TOTAL: $64,776
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hofstadter, R.	GSFC/Campbell, C. E.	11-Astronomy

CALIFORNIA (Continued)

NAS 5-21960 **Stanford University** **1343**

Gravity only orbit control subsystem

Period	*Obligations*	
12/21/73-12/21/76	FY76: $15,000	TOTAL: $192,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Debra, D. B.	GSFC/Lidston, J. M.	42-Astro Engr

NAS 5-23522 **Stanford University** **1344**

Radiographic applications of spatial frequency multiplexing

Period	*Obligations*	
06/28/76-06/27/77	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
MacOvski, A.	GSFC/Ostrow, H.	19-Phys Sci, NEC

NAS 5-23618 **Stanford University** **1345**

Extreme ultra-violet and soft X-ray study

Period	*Obligations*	
06/21/76-11/05/76	FY76: $9,000	TOTAL: $9,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Walker, A. B., Jr.	GSFC/Weinreb, M. B.	11-Astronomy

NAS 8-31571 **Stanford University** **1346**

Structure and energy balance of coronal active regions

Period	*Obligations*	
02/01/76-01/31/77	FY76: $30,000	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Walker, A. B., Jr.	MSFC/Bass, B. G. MSFC/Hagyard, M.	13-Physics

NAS 8-31769 **Stanford University** **1347**

Theoretical evaluation of the response of the ionosphere to the injection of chemically reactive vapor

Period	*Obligations*	
12/01/75-05/31/76	FY76: $8,000	TOTAL: $8,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Da Rosa, A. V.	MSFC/Roberts, W. T.	13-Physics

NAS 9-14716 **Stanford University** **1348**

Environmental stress and regulation of androgen secretion

Period	*Obligations*	
06/17/75-06/17/77	FY76:	TOTAL: $40,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Davidson, J. M.	JSC/Leach, C. S.	59-Life Sci, NEC

NASW 2916 **Stanford University** **1349**

Advanced studies in computer visual systems for exploratory vehicles

Period	*Obligations*	
03/01/76-02/28/77	FY76: $45,000	TOTAL: $45,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCarthy, J.	HQ-RE/Pontious, C. E.	45-Elec Engr

NCA 2-745414 **Stanford University** **1350**

Efferent modulation of behavioral and neuronal habituation

Period	*Obligations*	
01/01/74-12/31/75	FY76:	TOTAL: $9,206
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pribram, K. H.	ARC/Zill, L. P.	53-Other Medical

NCA 2-745418 **Stanford University** **1351**

Development of a computer-based testing program for measurement of cognitive and perceptual skills

Period	*Obligations*	
12/01/73-01/31/76	FY76:	TOTAL: $14,760
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Atkinson, R. C.	ARC/Zill, L. P.	53-Other Medical

NCA 2-745426 **Stanford University** **1352**

Study of selected management systems

Period	*Obligations*	
06/15/74-06/30/75	FY76: $90	TOTAL: $1,090
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pederson, C. A.	ARC/Zill, L. P.	99-Multi-Discip

NCA 2-745503 **Stanford University** **1353**

Brain serotonin and pituitary-adrenal function

Period	*Obligations*	
07/01/74-09/30/75	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barchas, J. D.	ARC/Zill, L. P.	53-Other Medical

NCA 2-745504 **Stanford University** **1354**

In vivo determination of zone properties from mechanical measurements

Period	*Obligations*	
07/01/74-06/31/75	FY76:	TOTAL: $11,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Steele, C. R.	ARC/Zill, L. P.	53-Other Medical

NCA 2-745506 **Stanford University** **1355**

Quantum chemical calculations for prediction of mass spectra

Period	*Obligations*	
08/01/74-11/30/75	FY76: $2,271	TOTAL: $8,771
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Loew, G. B.	ARC/Zill, L. P.	12-Chemistry

NCA 2-745508 **Stanford University** **1356**

Synoptic relations in the vestibulo-ocular system

Period	*Obligations*	
10/01/74-09/30/76	FY76:	TOTAL: $6,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mathers, L.	ARC/Zill, L. P.	53-Other Medical

NCA 2-745509 **Stanford University** 1357

Effects of states of physical activity/inactivity on hormone receptor binding

Period	*Obligations*	
10/01/74-08/31/75	FY76:	TOTAL: $14,072
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reaven, G. M.	ARC/Zill, L. P.	53-Other Medical

NCA 2-745510 **Stanford University** 1358

Opportunities for radio science experiments with future NASA spacecraft

Period	*Obligations*	
10/01/74-09/30/75	FY76:	TOTAL: $14,989
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Croft, T. A.	ARC/Zill, L. P.	42-Astro Engr

NCA 2-745511 **Stanford University** 1359

Angstrom-particle catalysis

Period	*Obligations*	
10/01/74-09/30/75	FY76:	TOTAL: $5,974
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pound, G. M.	ARC/Zill, L. P.	12-Chemistry

NCA 2-745512 **Stanford University** 1360

Joint use of specialized resources to support basic, exploratory and applied research in acoustics

Period	*Obligations*	
11/01/74-10/31/75	FY76:	TOTAL: $53,984
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Karamcheti, K.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-745513 **Stanford University** 1361

Investigation of picture statistics and video compression techniques

Period	*Obligations*	
10/01/74-10/31/75	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peterson, A. M.	ARC/Zill, L. P.	45-Elec Engr

NCA 2-745514 **Stanford University** 1362

Development of reflecting optics systems used in infrared astronomy

Period	*Obligations*	
01/01/75-05/31/75	FY76:	TOTAL: $1,597
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ritson, D.	ARC/Zill, L. P.	11-Astronomy

NCA 2-745515 **Stanford University** 1363

Studies of compiler implementation

Period	*Obligations*	
01/01/75-12/31/75	FY76:	TOTAL: $14,741
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bredt, T. H.	ARC/Zill, L. P.	21-Mathematics

NCA 2-745516 **Stanford University** 1364

Analysis of visual orientation and visual effort

Period	*Obligations*	
01/01/75-12/31/75	FY76:	TOTAL: $15,998
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pribram, K. H.	ARC/Zill, L. P.	53-Other Medical

NCA 2-745517 **Stanford University** 1365

Infrared spectroscopy of water vapor at atmospheric and elevated temperatures

Period	*Obligations*	
01/01/75-03/31/76	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mitchner, M.	ARC/Zill, L. P.	31-Atmos Sci

NCA 2-745518 **Stanford University** 1366

Study of filter mechanizations for video inertia pointing system microprocessor

Period	*Obligations*	
04/15/75-09/30/75	FY76:	TOTAL: $7,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Powell, J. D.	ARC/Zill, L. P.	45-Elec Engr

NCA 2-745519 **Stanford University** 1367

New techniques for data analysis

Period	*Obligations*	
04/01/75-03/31/76	FY76:	TOTAL: $8,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Petrosian, V.	ARC/Zill, L. P.	21-Mathematics

NCA 2-745520 **Stanford University** 1368

Study of numerical methods for rotational flow

Period	*Obligations*	
06/23/75-07/31/76	FY76:	TOTAL: $12,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Oliger, J.	ARC/Zill, L. P.	21-Mathematics

NCA 2-745521 **Stanford University** 1369

Hypothalamic-pituitary adrenal feedback threshold in aging

Period	*Obligations*	
06/01/75-12/31/76	FY76: $8,000	TOTAL: $8,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Berger, P. A.	ARC/Zill, L. P.	51-Biology

NCA 2-745601 **Stanford University** 1370

Development of a research model of the vertical motion simulator

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $10,326
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Debra, D.	ARC/Zill, L. P.	46-Mech Engr

CALIFORNIA (Continued)

NCA 2-745602 **Stanford University** 1371

Study of flow separation phenomena

Period	*Obligations*	
08/01/75-07/31/76	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kline, S. J. Mehta, U. B.	ARC/Zill, L. P.	13-Physics

NCA 2-745603 **Stanford University** 1372

Material movement within solid surfaces transfer processes

Period	*Obligations*	
09/01/75-08/31/76	FY76: $9,945	TOTAL: $9,945
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barnett, D. M.	ARC/Zill, L. P.	47-Materials Engr

NCA 2-745604 **Stanford University** 1373

Aeronautical noise studies R and D process

Period	*Obligations*	
10/01/75-09/30/76	FY76: $10,706	TOTAL: $10,706
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rosenberg, N.	ARC/Zill, L. P.	75-Political Sci

NCA 2-745605 **Stanford University** 1374

Joint use of specialized resources in aeronautics

Period	*Obligations*	
11/01/75-10/31/76	FY76: $64,148	TOTAL: $64,148
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Karamcheti, K.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-745606 **Stanford University** 1375

Subjective evaluation of the effects of video compression techniques

Period	*Obligations*	
11/17/75-11/16/76	FY76: $8,554	TOTAL: $8,554
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Parker, E. B.	ARC/Zill, L. P.	45-Elec Engr

NCA 2-745607 **Stanford University** 1376

Studies of compiler for fluid language

Period	*Obligations*	
01/01/76-06/30/76	FY76: $8,000	TOTAL: $8,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cerf, V.	ARC/Zill, L. P.	21-Mathematics

NCA 2-745610 **Stanford University** 1377

Development of computational tools for compressor subsonic diffuser design

Period	*Obligations*	
03/15/76-03/14/77	FY76: $14,970	TOTAL: $14,970
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kline, S. J.	ARC/Presley, L. L.	41-Aero Engr

NCA 2-745613 **Stanford University** 1378

Surface brightness vs. redshift in galaxy cluster

Period	*Obligations*	
05/15/76-05/14/77	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Petrosian, V.	ARC/Caroff, L. J.	11-Astronomy

NCA 2-745614 **Stanford University** 1379

Analysis of multispectral scanner classification algorithms

Period	*Obligations*	
06/01/76-02/28/77	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peterson, A. M.	ARC/Lumb, D. R.	49-Engr, NEC

NGL 05-020-007 **Stanford University** 1380

Guidance and control of flight vehicles

Period	*Obligations*	
08/17/72-08/14/78	FY76: $66,000	TOTAL: $1,291,064
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bryson, A. E. Franklin, G. F.	ARC/Doolin, B. F.	49-Engr, NEC

NGL 05-020-008 **Stanford University** 1381

Investigation of experimental techniques for measurement of low frequency electromagnetic phenomena in the atmosphere

Period	*Obligations*	
09/01/61-02/28/79	FY76: $140,000	TOTAL: $1,294,443
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Helliwell, R. A.	HQ-ST/Schmerling, E. R. HQ-ST/Taylor, W. W.	13-Physics

NGL 05-020-014 **Stanford University** 1382

Theoretical & experimental radio & radar studies of lunar, planetary ionospheres, atmospheres, & surfaces of sun & interplanetary medium

Period	*Obligations*	
04/30/63-09/30/78	FY76: $160,615	TOTAL: $2,658,574
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Eshleman, V. R.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 05-020-103 **Stanford University** 1383

Investigation of laser dynamics, modulation and control by means of intra-cavity time varying perturbation

Period	*Obligations*	
05/16/66-03/31/79	FY76: $70,000	TOTAL: $1,017,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harris, S. E. Siegman, A. E.	HQ-RE/Pontious, C. E. GSFC/McAvoy, N.	45-Elec Engr

NGL 05-020-134 **Stanford University** 1384

Mass transfer to a turbulent boundary layer with step changes in boundary conditions and variable free-stream velocity

Period	*Obligations*	
02/24/66-06/30/76	FY76:	TOTAL: $251,220
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kays, W. M. Moffat, R. J.	LERC/Graham, R. W.	46-Mech Engr

NGL 05-020-176 **Stanford University** **1385**
Investigation of space-related whistler propagation phenomena in laboratory plasmas

Period	*Obligations*	
03/02/67-06/30/78	FY76: $100,000	TOTAL: $899,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Crawford, F. W.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

NGL 05-020-242 **Stanford University** **1386**
Research on the effects of structure upon the electronic behavior of materials

Period	*Obligations*	
03/26/68-01/31/76	FY76:	TOTAL: $160,129
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Little, W. A.	HQ-RW/Weinberg, I. JPL/Rembaum, A.	13-Physics

NGL 05-020-243 **Stanford University** **1387**
Refined methods of aeroelastic analysis and optimization

Period	*Obligations*	
08/14/67-08/31/78	FY76: $15,000	TOTAL: $110,630
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ashley, H.	LARC/Doggett, R. V., Jr.	41-Aero Engr

NGL 05-020-272 **Stanford University** **1388**
Theoretical study of the solar atmosphere and the structure of active regions

Period	*Obligations*	
06/07/68-07/01/76	FY76: $70,000	TOTAL: $705,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sturrock, P. A.	HQ-ST/Timothy, A. F.	13-Physics

NGL 05-020-305 **Stanford University** **1389**
Evaluation of the cardiovascular system during various circulatory stresses

Period	*Obligations*	
09/17/68-08/31/78	FY76: $130,000	TOTAL: $1,076,032
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harrison, D. C.	ARC/Sandler, H.	52-Clinical Med

NGL 05-020-397 **Stanford University** **1390**
Dynamics of mechanical systems coupled to energy sources

Period	*Obligations*	
02/04/70-09/30/77	FY76:	TOTAL: $40,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Herrmann, G.	LARC/Reed, W. H., III	41-Aero Engr

NGL 05-020-498 **Stanford University** **1391**
Modal suppression to flutter control

Period	*Obligations*	
04/01/71-04/01/77	FY76:	TOTAL: $120,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McIntosh, S. C., Jr.	DFRC/Kordes, E. E.	41-Aero Engr

NGL 05-020-582 **Stanford University** **1392**
Abiotic origins of optical activity

Period	*Obligations*	
04/18/72-04/30/77	FY76: $31,382	TOTAL: $188,414
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bonner, W. A.	HQ-SB/Young, R. S.	59-Life Sci, NEC

NGR 05-020-001 **Stanford University** **1393**
Ionospheric research utilizing satellite radio transmissions

Period	*Obligations*	
07/20/59-08/15/76	FY76: $53,295	TOTAL: $1,248,917
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Da Rosa, A. V.	HQ-ST/Berko, F. W. HQ-ST/Schmerling, E. R.	13-Physics

NGR 05-020-004 **Stanford University** **1394**
Cytochemical studies of planetary microorganisms

Period	*Obligations*	
04/01/60-08/31/76	FY76: $110,000	TOTAL: $4,425,587
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lederberg, J. Levinthal, E. C. Djerassi, C.	HQ-SB/Young, R. S.	51-Biology

NGR 05-020-019 **Stanford University** **1395**
Performance of a gyro test of general relativity in a satellite & development of associated control technology

Period	*Obligations*	
10/11/75-09/01/76	FY76: $352,000	TOTAL: $3,511,075
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fairbank, W. M. Everitt, C. W. Debra, D. B.	MSFC/Potter, R. A. MSFC/Decher, R.	13-Physics

NGR 05-020-345 **Stanford University** **1396**
Research in remote control

Period	*Obligations*	
06/09/69-10/31/76	FY76: $28,730	TOTAL: $155,785
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thompson, D. A. Verplank, W. L.	ARC/Jones, J. L. ARC/Quattrone, P. D.	49-Engr, NEC

NGR 05-020-405 **Stanford University** **1397**
Electronic properties of hydrogen cyanide and its polymers of pyrroles and ferric porphyrins

Period	*Obligations*	
02/11/70-11/31/76	FY76: $14,216	TOTAL: $80,156
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Loew, G. H.	ARC/Chang, S. ARC/Kvenvolden, K. A.	12-Chemistry

NGR 05-020-407 **Stanford University** 1398
Analysis of solar wind structural data acquired from Pioneer and Mariner spacecraft
Period *Obligations*
12/14/70-02/28/76 FY76: TOTAL: $290,606
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Croft, T. A. HQ-ST/Cauffman, D. P.
19-Phys Sci, NEC
HQ-ST/Schmerling, E. R.

NGR 05-020-435 **Stanford University** 1399
Neuronal analysis of visual perception
Period *Obligations*
01/01/70-02/01/77 FY76: $5,000 TOTAL: $33,845
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chow, K. L. ARC/Mehler, W. R. 59-Life Sci, NEC

NGR 05-020-452 **Stanford University** 1400
Instrumentation study development for high energy physics experiment in space
Period *Obligations*
06/09/70-06/30/76 FY76: $280,000 TOTAL: $1,127,941
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hofstadter, R. HQ-SA/Sofia, S. 11-Astronomy
HQ-SA/Opp, A. G.

NGR 05-020-456 **Stanford University** 1401
Effects of altered gravitational stress on fluid balance and circulation of blood
Period *Obligations*
05/13/70-09/30/76 FY76: $45,000 TOTAL: $257,090
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Luetscher, J. A. ARC/Danellis, J. V. 52-Clinical Med
Goldman, R. H. ARC/Sandler, H.

NGR 05-020-510 **Stanford University** 1402
Galactic and extra galactic infrared line emission
Period *Obligations*
03/31/71-03/30/76 FY76: $7,500 TOTAL: $75,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Petrosian, V. HQ-SA/Boggess, N. W. 11-Astronomy
HQ-SA/Roman, N. G.

NGR 05-020-559 **Stanford University** 1403
Structure of solar magnetic and velocity fields
Period *Obligations*
03/22/72-06/30/76 FY76: $66,000 TOTAL: $366,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wilcox, J. M. HQ-SA/Jordan, S. D. 11-Astronomy

NGR 05-020-615 **Stanford University** 1404
Ultrasonic Doppler measurement of renal artery blood flow
Period *Obligations*
05/26/72-08/25/76 FY76: $100,000 TOTAL: $416,700
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Beaver, W. L. ARC/Sandler, H. 53-Other Medical
Meindl, J. D.

NGR 05-020-622 **Stanford University** 1405
Computation of turbulent flows
Period *Obligations*
07/20/72-07/31/76 FY76: $51,205 TOTAL: $202,637
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Reynolds, W. C. ARC/Rubesin, M. W. 47-Materials Engr
Ferziger, J. H. ARC/Marvin, J. G.

NGR 05-020-632 **Stanford University** 1406
Analytical methodology for biochemical monitoring
Period *Obligations*
05/29/73-12/31/76 FY76: $15,000 TOTAL: $195,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lederberg, J. JSC/Rummel, J. [illegible] 53-Other Medical

NGR 05-020-634 **Stanford University** 1407
Biomedical technology transfer
Period *Obligations*
12/07/72-09/30/76 FY76: $200,000 TOTAL: $653,503
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harrison, D. C. ARC/Sandler, H. 52-Clinical Med
Miller, H. A. ARC/McCutcheon, E. P.

NGR 05-020-649 **Stanford University** 1408
Study of lunar and planetary surfaces
Period *Obligations*
03/06/73-12/31/76 FY76: $16,900 TOTAL: $67,170
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Howard, H. T. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Wahmann, R.

NGR 05-020-668 **Stanford University** 1409
Magnetosphere structure and radiation mechanisms on pulsars
Period *Obligations*
11/01/73-10/31/77 FY76: $25,000 TOTAL: $73,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sturrock, P. A. HQ-SA/Sofia, S. 11-Astronomy
HQ-SA/Opp, A. G.

NGR 05-020-671 **Stanford University** 1410
Mechanical behavior of dispersion-strengthened materials at elevated temperatures
Period *Obligations*
06/05/73-12/31/76 FY76: TOTAL: $64,259
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sherby, O. D. LERC/Whittenberger, J. D.
47-Materials Engr

NGR 05-020-676 **Stanford University** 1411
Research program in acoustics
Period *Obligations*
07/01/73-06/30/76 FY76: TOTAL: $150,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Karamcheti, K. ARC/Hickey, D. H. 13-Physics

NGR 05-020-690 **Stanford University** **1412**

Miniature gas analysis systems

Period	*Obligations*	
09/01/73-03/01/77	FY76: $62,632	TOTAL: $142,632
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Angell, J.	ARC/Sandler, H. ARC/Donaldson, R. W., Jr.	53-Other Medical

NGR 05-020-699 **Stanford University** **1413**

Dual computer configurations

Period	*Obligations*	
11/01/73-05/31/76	FY76:	TOTAL: $135,910
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bredt, T. A. McCluskey, E. J. Ogus, R. C.	ARC/Hruby, R. J. ARC/Lessing, H. C.	41-Aero Engr

NGR 05-020-710 **Stanford University** **1414**

Interaction of coatings w/heating environments

Period	*Obligations*	
01/01/74-12/31/76	FY76: $40,141	TOTAL: $112,628
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bates, C. W.	ARC/Goldstein, H. E.	46-Mech Engr

NGT 05-020-409 **Stanford University** **1415**

Summer faculty fellowship program in engineering systems design

Period	*Obligations*	
12/18/69-03/31/77	FY76: $108,490	TOTAL: $798,386
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Adams, J. L.	HQ-P/Carter, C. H.	49-Engr, NEC

NGT 05-020-412 **Stanford University** **1416**

A summer program of NASA summer faculty fellowships

Period	*Obligations*	
12/16/69-03/31/77	FY76: $143,289	TOTAL: $965,901
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bershader, D.	HQ-P/Carter, C. H.	49-Engr, NEC

NSG 1201 **Stanford University** **1417**

Fundamental materials studies directed at improving the efficiencies of III-V heterojunction solar cells

Period	*Obligations*	
06/03/75-06/02/77	FY76: $33,000	TOTAL: $63,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pearson, G. L.	LARC/Hutchby, J. A. LARC/Hendricks, H. D.	13-Physics

NSG 1210 **Stanford University** **1418**

Study a new drag-free density instrument requiring no propellant

Period	*Obligations*	
07/01/75-10/01/75	FY76:	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Debra, D. B.	LARC/Keating, G. M. LARC/Lee, R. B., III	49-Engr, NEC

NSG 2007 **Stanford University** **1419**

Some experimental studies relating to airfoil noise

Period	*Obligations*	
01/15/74-08/15/78	FY76: $316,760	TOTAL: $819,740
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bryson, A. E.	ARC/Erzberger, H. ARC/Tobias, L.	19-Phys Sci, NEC

NSG 2020 **Stanford University** **1420**

Remote monitoring of physiologic effects of simulated space flight

Period	*Obligations*	
04/01/74-06/30/77	FY76: $50,000	TOTAL: $149,950
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Popp, R.	ARC/Sandler, H.	52-Clinical Med

NSG 2035 **Stanford University** **1421**

Electronic recombination gas-dynamic laser study

Period	*Obligations*	
07/15/74-07/31/76	FY76: $43,375	TOTAL: $80,447
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bershader, D. Bowen, S. W.	ARC/Billman, K. W. ARC/Hansen, C. F.	13-Physics

NSG 2049 **Stanford University** **1422**

Spectroscopy of cosmic X-ray sources and of the solar corona

Period	*Obligations*	
10/21/74-01/31/77	FY76: $150,000	TOTAL: $300,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Walker, A. B., Jr.	ARC/Chisel, D. M. ARC/Bradski, M.	11-Astronomy

NSG 2050 **Stanford University** **1423**

Supersonic co-electric discharge lasers

Period	*Obligations*	
10/29/74-10/31/76	FY76: $35,195	TOTAL: $70,345
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mitchner, M. Hanson, R. K.	ARC/Billman, K. W. ARC/Monson, D. J.	13-Physics

NSG 2071 **Stanford University** **1424**

Influence of metals on tungsten surfaces

Period	*Obligations*	
05/01/75-04/30/77	FY76: $31,346	TOTAL: $58,323
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pound, G. M. Davis, P. R.	ARC/Poppa, H. R.	47-Materials Engr

NSG 2072 **Stanford University** **1425**

Numerical analysis of general circulation of stratosphere

Period	*Obligations*	
06/15/75-11/14/76	FY76: $49,4[illegible]	TOTAL: $72,458
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spreiter, J. R.	ARC/Reynolds, R. T. ARC/Whitten, R. C.	31-Atmos Sci

NSG 2085 **Stanford University** **1426**

Aerothermodynamic heat-shield environments

Period	Obligations	
09/15/75-09/14/76	FY76: $38,780	TOTAL: $[illegible]8,780
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bershades, D. Lasher, L./Nachtsheim, P. R.	ARC/Howe, J. T.	42-Astro Engr

NSG 2092 **Stanford University** **1427**

In vivo determination of bone properties from mechanical measurements

Period	Obligations	
07/01/75-09/30/76	FY76: $22,963	TOTAL: $22,963
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Steele, C. R.	ARC/Young, D. R.	53-Other Medical

NSG 2100 **Stanford University** **1428**

Control methods for aiding a pilot during STOL engine-out transients

Period	Obligations	
08/01/75-07/31/77	FY76: $18,934	TOTAL: $18,934
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Debra, D. B. Ashley, H. Yson, B. R.	ARC/Franklin, J. A.	41-Aero Engr

NSG 2102 **Stanford University** **1429**

Effects of wavelength, temperature, structure and impurities in subliming volume reflectors in convective and intense radiative environments

Period	Obligations	
09/15/75-09/14/76	FY76: $24,090	TOTAL: $24,090
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bates, C. W.	ARC/Nachtsheim, P. R. ARC/Howe, J. T.	47-Materials Engr

NSG 2121 **Stanford University** **1430**

Preliminary design and computer simulation of a very large Fourier transform processor for the interstellar search system

Period	Obligations	
01/01/76-12/31/76	FY76: $29,037	TOTAL: $29,037
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peterson, A. M. Despain, A. M.	ARC/Billingham, J. ARC/Wolfe, J. H.	49-Engr, NEC

NSG 2132 **Stanford University** **1431**

Study of lower body negative pressure

Period	Obligations	
02/01/76-01/31/77	FY76: $30,000	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harrison, D. C.	ARC/Sandler, H.	52-Clinical Med

NSG 2141 **Stanford University** **1432**

Effects of bedrest and inactivity on insulin binding to receptors and insulin action

Period	Obligations	
04/01/76-03/31/77	FY76: $11,831	TOTAL: $11,831
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Olefsky, J. M. Reaven, G. M.	ARC/Dolkas, C. B.	52-Clinical Med

NSG 2161 **Stanford University** **1433**

Structure elucidation of plasma polymerized perfluorobutene-2 by nuclear magnetic resonance studies

Period	Obligations	
06/01/76-02/28/77	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brauman, J. I. Naar, C.	ARC/Wydeven, T., Jr.	12-Chemistry

NSG 4002 **Stanford University** **1434**

Theoretical and experimental investigations in the control of aircraft

Period	Obligations	
09/01/74-08/31/78	FY76: $70,000	TOTAL: $190,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bryson, A. E. Debra, D. B. Powell, J. D.	DFRC/Deets, D. A. DFRC/Kordes, E. E.	41-Aero Engr

NSG 5024 **Stanford University** **1435**

Relation of the observed far ultraviolet solar irradiance to the solar magnetic sector structure

Period	Obligations	
09/01/74-09/30/75	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilcox, J. M.	GSFC/Heath, D. F.	31-Atmos Sci

NSG 5050 **Stanford University** **1436**

Field measurements for heat capacity mapping

Period	Obligations	
03/01/75-05/31/76	FY76: $3,758	TOTAL: $43,553
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lyon, R. J.	GSFC/Schutt, J. B.	32-Geological Sci

NSG 7029 **Stanford University** **1437**

Radar data from the moon

Period	Obligations	
04/01/74-06/30/76	FY76:	TOTAL: $121,545
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tyler, G. L.	HQ-SL/Williams, R. J.	32-Geological Sci

NSG 7092 **Stanford University** **1438**

Energy release in solar flares based on OSO-5 data

Period	Obligations	
10/01/74-09/30/76	FY76: $40,000	TOTAL: $90,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jordan, T. H.	HQ-ST/Timothy, A. F.	11-Astronomy

NSG 7099 **Stanford University** 1439
Structure and energy balance of coronal active regions
Period *Obligations*
10/29/74-01/31/76 FY76: TOTAL: $55,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Walker, A. B., Jr. HQ-ST/Timothy, A. F. 11-Astronomy

NSG 7110 **Stanford University** 1440
Investigation of laser particle accelerators
Period *Obligations*
02/06/75-12/31/76 FY76: $50,000 TOTAL: $100,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pantell, R. H. HQ-RR/Thom, K. 13-Physics
ARC/Biliman, K. W.

NSG 7117 **Stanford University** 1441
A study of seismic velocity electrical conductivity and the state of the lunar crust
Period *Obligations*
03/01/75-02/28/77 FY76: $29,968 TOTAL: $76,520
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Nur, A. M. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NAS 5-20079 **University of California - Berkeley** 1442
Energetic particles flux experiment for International Sun/Earth Explorer mother & daughter spacecraft
Period *Obligations*
05/23/74-10/30/79 FY76: $398,000 TOTAL: $821,152
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, K. A. GSFC/Davis, M. A. 13-Physics

NAS 5-20080 **University of California - Berkeley** 1443
Quasi-electric fields experiment for ISEE mother/daughter spacecraft
Period *Obligations*
05/21/74-10/31/79 FY76: $218,000 TOTAL: $434,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mozer, F. S. GSFC/Davis, M. A. 13-Physics

NAS 5-20838 **University of California - Berkeley** 1444
Data reduction and analysis of data from IMP I solar particle experiment
Period *Obligations*
02/19/75-12/31/75 FY76: TOTAL: $55,700
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, K. A. GSFC/Davis, M. A. 13-Physics

NAS 5-20969 **University of California - Berkeley** 1445
ERTS data follow-on investigation
Period *Obligations*
04/15/75-07/15/76 FY76: TOTAL: $80,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Colwell, R. N. GSFC/Stonesifer, G. R.
32-Geological Sci

NAS 5-20995 **University of California - Berkeley** 1446
Isotopic composition of primary cosmic rays H thru FE for ISEE C spacecraft
Period *Obligations*
03/19/75-07/31/80 FY76: $774,000 TOTAL: $864,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Heckman, H. GSFC/Davis, M. A. 13-Physics

NAS 5-22307 **University of California - Berkeley** 1447
Solar X-ray and interplanetary and solar electrons for the ISEE-C
Period *Obligations*
04/11/75-07/30/80 FY76: $552,000 TOTAL: $582,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, K. A. GSFC/Gallagher, W. F.
32-Geological Sci

NAS 8-29503 **University of California - Berkeley** 1448
Trans-uranic cosmic ray flight experiment
Period *Obligations*
03/13/73-06/30/76 FY76: $76,000 TOTAL: $260,738
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Price, P. B. MSFC/Ondrak, B. T. 13-Physics

NAS 8-31346 **University of California - Berkeley** 1449
Feasibility of coherent and incoherent backscatter experiments from the AMPS laboratory
Period *Obligations*
03/01/75-12/21/76 FY76: TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mozel, F. S. MSFC/Roberts, W. T. 19-Phys Sci, NEC
MSFC/Chappell, C. R.

NAS 9-14419 **University of California - Berkeley** 1450
Agriculture interpretative technique development using Skylab/EREP data
Period *Obligations*
10/01/74-09/30/76 FY76: $3,500 TOTAL: $51,960
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Colwell, R. N. JSC/Forbes, C. D. 39-Env Sci, NEC

NAS 9-14452 **University of California - Berkeley** 1451
Forestry applications research on timber resources
Period *Obligations*
11/15/74-07/31/76 FY76: $75,000 TOTAL: $173,775
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lauer, D. JSC/Patteson, A. W. 39-Env Sci, NEC
Nichols, J. JSC/Weitz, P. J.

NAS 9-14565 **University of California - Berkeley** 1452
Study development of improved photointerpretative techniques to wheat identification
Period *Obligations*
05/15/75-11/14/76 FY76: $75,000 TOTAL: $255,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Colwell, R. N. JSC/Garcia, J. G. 39-Env Sci, NEC
Thomas, R. W. JSC/Feiveson, A. H.
Hall, C. M.

NCA 2-50302 **University of California - Berkeley** **1453**
Use of campus facilities
Period *Obligations*
07/01/72-07/31/75 FY76: $2,660 TOTAL: $34,580
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sherman, F. S. ARC/Zill, L. P. 32-Geological Sci

NCA 2-50406 **University of California - Berkeley** **1454**
Design and laboratory testing of electromagnet systems
Period *Obligations*
01/01/74-06/30/77 FY76: $2,000 TOTAL: $6,400
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Angelakos, D. J. ARC/Zill, L. P. 45-Elec Engr

NCA 2-50501 **University of California - Berkeley** **1455**
Electronic beam surface analysis of inorganic and organic materials
Period *Obligations*
07/01/74-06/30/75 FY76: TOTAL: $9,907
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Everhart, T. E. ARC/Zill, L. P. 47-Materials Engr

NCA 2-50502 **University of California - Berkeley** **1456**
Legal aspects of remote sensing technology
Period *Obligations*
09/01/74-06/30/76 FY76: TOTAL: $26,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Buxbaum, R. M. ARC/Zill, L. P. 75-Political Sci

NCA 2-50503 **University of California - Berkeley** **1457**
Full flight simulation incorporating tasks that cause pilot error
Period *Obligations*
11/01/74-10/31/75 FY76: TOTAL: $9,944
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Postman, L. J. ARC/Zill, L. P. 41-Aero Engr
Rosch, E.

NCA 2-50504 **University of California - Berkeley** **1458**
Optimized experiment for measuring prezomagnetic signals of ecological origin
Period *Obligations*
10/15/74-09/30/75 FY76: TOTAL: $3,740
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bhattacharyya, B. K. ARC/Zill, L. P. 49-Engr, NEC

NCA 2-50508 **University of California - Berkeley** **1459**
Motivational factors in detection, multi-source monitoring and human tracking
Period *Obligations*
02/01/75-01/31/76 FY76: TOTAL: $7,076
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hafter, E. R. ARC/Zill, L. P. 69-Psych, NEC

NCA 2-50509 **University of California - Berkeley** **1460**
Studies on the lactogenic activity of human plasma fractions
Period *Obligations*
04/01/75-03/31/76 FY76: TOTAL: $13,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Nicoll, C. S. ARC/Zill, L. P. 51-Biology

NCA 2-50510 **University of California - Berkeley** **1461**
Electron beam surface analysis
Period *Obligations*
03/15/75-04/30/76 FY76: TOTAL: $9,950
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Everhart, T. E. ARC/Zill, L. P. 47-Materials Engr

NCA 2-50603 **University of California - Berkeley** **1462**
Investigations into management and personnel requirements for hazardous waste disposal
Period *Obligations*
07/01/75-06/30/76 FY76: $20,705 TOTAL: $20,705
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Laporte, T. ARC/Zill, L. P. 75-Political Sci

NCA 2-50605 **University of California - Berkeley** **1463**
Surface analysis of materials
Period *Obligations*
05/01/76-04/30/77 FY76: $5,500 TOTAL: $5,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Everhart, T. E. HQ-/Poppa, H. R. 47-Materials Engr

NCA 2-50606 **University of California - Berkeley** **1464**
Detection of fine structure lines from H-II region
Period *Obligations*
04/01/76-12/31/76 FY76: $16,661 TOTAL: $16,661
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gaustad, J. HQ-/Ericson, E. F. 11-Astronomy

NCA 2-50607 **University of California - Berkeley** **1465**
Utilization of light energy by halobacterium halobium
Period *Obligations*
06/01/76-05/31/77 FY76: $7,400 TOTAL: $7,400
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Packer, L. ARC/Lanyi, J. K. 51-Biology

NGL 05-003-003 **University of California - Berkeley** **1466**
Study of extraterrestrial life using reflection spectra as a basis
Period *Obligations*
08/01/60-10/31/78 FY76: $180,000 TOTAL: $3,578,081
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Calvin, M. HQ-SB/Young, R. S. 32-Geological Sci
Weaver, H.
Burlingame, A. L.

NGL 05-003-017 University of California - Berkeley 1467
Investigation of high energy solar flare radiation & trapped radiation, including balloon-borne & sounding rocket tests of prototype detectors
Period *Obligations*
04/08/63-01/31/79 FY76: $115,000 TOTAL: $1,762,942
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, K. A. HQ-ST/Schmerling, E. R. 19-Phys Sci, NEC
HQ-ST/Taylor, W. W.

NGL 05-003-024 University of California - Berkeley 1468
Primate hemodynamics and metabolism under conditions of weightlessness
Period *Obligations*
08/01/63-06/30/76 FY76: $130,000 TOTAL: $2,876,374
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pace, N. ARC/Quattrone, P. D. 59-Life Sci, NEC
ARC

NGL 05-003-272 University of California - Berkeley 1469
Research on radiation physics
Period *Obligations*
03/01/68-02/28/78 FY76: $70,000 TOTAL: $826,380
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Townes, C. H. HQ-SA/Boggess, N. W. 11-Astronomy
Chiao, R. Y. HQ-SA/Roman, N. G.

NGL 05-003-286 University of California - Berkeley 1470
Orbiting spacecraft infrared spectrometer development for terrestrial and laboratory study of planetary atmospheres
Period *Obligations*
08/08/68-08/31/78 FY76: $75,891 TOTAL: $927,395
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pimental, G. C. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NGL 05-003-404 University of California - Berkeley 1471
Integrated study of earth resources in the State of California using remote sensing techniques
Period *Obligations*
07/13/70-04/30/79 FY76: $410,000 TOTAL: $3,910,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Colewell, R. N. HQ-P/Vitale, J. A. 39-Env Sci, NEC

NGL 05-003-409 University of California - Berkeley 1472
Lunar sample analysis
Period *Obligations*
01/26/71-01/31/79 FY76: $98,670 TOTAL: $629,083
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Reynolds, J. H. JSC/Harris, J. W. 13-Physics

NGL 05-003-410 University of California - Berkeley 1473
Lunar sample analysis
Period *Obligations*
02/22/71-01/31/79 FY76: $120,000 TOTAL: $724,795
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Price, P. B. JSC/Harris, J. W. 12-Chemistry

NGL 05-003-497 University of California - Berkeley 1474
Research in space sciences
Period *Obligations*
04/05/72-03/31/79 FY76: $200,000 TOTAL: $1,000,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, K. A. HQ-P/Carter, C. H. 99-Multi-Discip

NGR 05-003-239 University of California - Berkeley 1475
Auroral zone rocket studies of electric fields and precipitating particles
Period *Obligations*
08/26/68-10/31/76 FY76: $147,000 TOTAL: $782,811
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Moser, F. S. GSFC/Bissell, E. E., Jr. 13-Physics
Anderson, K. A.

NGR 05-003-309 University of California - Berkeley 1476
Non-gravitational forces of periodic comets
Period *Obligations*
10/20/70-06/30/75 FY76: TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cunningham, L. E. HQ-SL/Donn, B. D. 31-Atmos Sci

NGR 05-003-376 University of California - Berkeley 1477
High resolution studies of cosmic rays and solar particles
Period *Obligations*
04/16/71-09/30/77 FY76: $118,000 TOTAL: $428,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Price, P. B. HQ-SA/Sofia, S. 11-Astronomy

NGR 05-003-435 University of California - Berkeley 1478
Lunar sample analysis
Period *Obligations*
04/01/71-01/31/77 FY76: TOTAL: $1,184,800
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Burlingame, A. L. JSC/Harris, J. W. 13-Physics

NGR 05-003-450 University of California - Berkeley 1479
Study of X-ray emission from galactic and extragalactic sources with emphasis on soft and ultra-soft wavelengths
Period *Obligations*
05/28/71-10/31/76 FY76: $130,339 TOTAL: $741,203
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bowyer, C. S. GSFC/Bissell, E. E., Jr. 11-Astronomy
HQ-SA/Opp, A. G.

NGR 05-003-451 University of California - Berkeley 1480
Research in aeronautics & air transportation
Period *Obligations*
03/30/71-03/15/77 FY76: $3,000 TOTAL: $400,393
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Holt, M. ARC/Chapman, G. T. 41-Aero Engr
Sherman, F. S. ARC/Pfyl, F. A.
Talbot, L.

NGR 05-003-452 University of California - Berkeley 1481
Infrared spectra of planetary atmospheres

Period	Obligations	
02/18/72-06/30/77	FY76:	TOTAL: $168,020

Prin. Invest	NASA Tech. Officer	CASE Category
Townes, C. H.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGR 05-003-460 University of California - Berkeley 1482
The chemistry of living systems

Period	Obligations	
07/21/71-10/31/77	FY76: $75,000	TOTAL: $400,000

Prin. Invest	NASA Tech. Officer	CASE Category
Jukes, J. H.	HQ-SB/Young, R. S.	12-Chemistry

NGR 05-003-470 University of California - Berkeley 1483
In vivo measurement of human body measurements

Period	Obligations	
05/11/72-04/30/76	FY76: $30,000	TOTAL: $296,508

Prin. Invest	NASA Tech. Officer	CASE Category
Pace, N.	ARC/Newsom, B. D. ARC/Sandler, H.	59-Life Sci, NEC

NGR 05-003-471 University of California - Berkeley 1484
Sociopolitical assessment of advanced technology

Period	Obligations	
05/21/71-08/31/76	FY76: $22,381	TOTAL: $283,150

Prin. Invest	NASA Tech. Officer	CASE Category
Laporte, T.	ARC/Tanner, T. A.	79-Soc Sci, NEC

NGR 05-003-510 University of California - Berkeley 1485
OGO-5 solar X-ray measurements and related solar flare emissions

Period	Obligations	
11/17/72-06/30/76	FY76:	TOTAL: $45,000

Prin. Invest	NASA Tech. Officer	CASE Category
Anderson, K. A.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 05-003-511 University of California - Berkeley 1486
Spectrographic observation of infrared lines

Period	Obligations	
03/01/73-08/31/76	FY76: $60,000	TOTAL: $165,005

Prin. Invest	NASA Tech. Officer	CASE Category
Townes, C. H.	ARC/Cameron, R. M. ARC/Gillespie, C. M., Jr.	11-Astronomy

NGR 05-003-513 University of California - Berkeley 1487
Heavy ion fragment experiments at the Bevatron

Period	Obligations	
10/01/73-09/30/76	FY76: $120,000	TOTAL: $375,000

Prin. Invest	NASA Tech. Officer	CASE Category
Heckman, H. H.	HQ-SA/Sofia, S. HQ-SA/Opp, A. G.	11-Astronomy

NGR 05-003-553 University of California - Berkeley 1488
High energy primary cosmic radiation measured by superconducting magnetic spectrometer

Period	Obligations	
05/10/73-12/31/76	FY76: $375,082	TOTAL: $1,050,164

Prin. Invest	NASA Tech. Officer	CASE Category
Alvarez, L. W.	HQ-SA/Sofia, S. HQ-SA/Opp, A. G.	11-Astronomy

NGR 05-003-559 University of California - Berkeley 1489
Metal barrier metal optical diodes

Period	Obligations	
03/19/73-05/01/76	FY76:	TOTAL: $108,024

Prin. Invest	NASA Tech. Officer	CASE Category
Gustafson, T. K.	ARC/Billman, K. W. ARC/Hansen, C. F.	45-Elec Engr

NGR 05-003-562 University of California - Berkeley 1490
Research on iron base alloys with superior strength and fracture toughness for use at cryogenic temperatures

Period	Obligations	
08/15/73-10/15/76	FY76: $35,000	TOTAL: $96,263

Prin. Invest	NASA Tech. Officer	CASE Category
Morris, J. W. Zackay, V. F. Parker, E. R.	LERC/Stephens, J. R.	47-Materials Engr

NGR 05-003-578 University of California - Berkeley 1491
Theoretical X-ray and gamma-ray astronomy

Period	Obligations	
08/01/73-08/31/76	FY76: $30,000	TOTAL: $91,544

Prin. Invest	NASA Tech. Officer	CASE Category
Silk, J. I. Arons, J.	HQ-SA/Rosendhal, J. D. HQ-SA/Roman, N. G.	11-Astronomy

NGR 05-003-587 University of California - Berkeley 1492
Investigation of strong features in the spectrum of procyon

Period	Obligations	
12/01/73-05/30/75	FY76:	TOTAL: $545

Prin. Invest	NASA Tech. Officer	CASE Category
Spinrad, H.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 2003 University of California - Berkeley 1493
Remote sensing and large-scale movements of nuisance algal blooms in eutrophic water bodies

Period	Obligations	
01/15/74-03/31/77	FY76: $10,000	TOTAL: $54,503

Prin. Invest	NASA Tech. Officer	CASE Category
Horne, A. J.	ARC/Wrigley, R. C.	39-Env Sci, NEC

NSG 2026 University of California - Berkeley 1494
Fire testing of aircraft interiors

Period	Obligations	
05/01/74-04/14/77	FY76: $26,500	TOTAL: $176,500

Prin. Invest	NASA Tech. Officer	CASE Category
Williamson, R. B. Hasegawa, H.	ARC/Kourtides, D. A.	44-Civil Engr

CALIFORNIA (Continued)

NSG 2043 University of California - Berkeley 1495
Preparation of composite reverse osmosis membranes by plasma polymerization

Period	*Obligations*	
10/01/74-10/01/76	FY76: $15,000	TOTAL: $30,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bell, A. T.	ARC/Wydeven, T., Jr.	43-Chem Engr
Kanafani, A.	ARC/Burrous, C. N.	

NSG 2084 University of California - berkeley 1496
Study of the thermal degradation of polymers under laser simulated environments

Period	*Obligations*	
06/09/75-07/30/76	FY76:	TOTAL: $23,181

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Williamson, R. B.	ARC/Riccitiello, S. R.	12-Chemistry
Lopata, E. S.	ARC/Parker, J. A.	

NSG 2110 University of California - Berkeley 1497
Towing of aircraft models

Period	*Obligations*	
10/01/75-09/30/76	FY76: $16,000	TOTAL: $16,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wehausen, J. V.	ARC/Ciffone, D. L.	41-Aero Engr
	ARC/Kelly, M. W.	

NSG 2125 University of California - Berkeley 1498
Aether drift and the isotropy of the universe

Period	*Obligations*	
10/01/75-09/31/76	FY76: $47,000	TOTAL: $47,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Muller, R. A.	ARC/Cameron, R. M.	11-Astronomy
Alvarez, L. W.		
Gillespie, C. M., Jr.		

NSG 2127 University of California - Berkeley 1499
An investigation of sources of information on short haul air passengers

Period	*Obligations*	
01/01/76-01/31/77	FY76: $33,048	TOTAL: $33,048

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Horonjeff, R.	ARC/Waters, M. H.	41-Aero Engr
Kanafani, A.		

NSG 2133 University of California - Berkeley 1500
Development of an operational scenario for intra-regional air service

Period	*Obligations*	
01/01/76-08/01/76	FY76: $6,240	TOTAL: $6,240

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Horonjeff, R.	ARC/Waters, M. H.	41-Aero Engr
	ARC/Bowles, J. V.	

NSG 2151 University of California - Berkeley 1501
Infrared and optical tunneling junctions

Period	*Obligations*	
05/01/76-04/30/77	FY76: $39,500	TOTAL: $39,500

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gustafson, T. K.	ARC/Billman, K. W.	13-Physics
	ARC/Lee, G.	

NSG 2160 University of California - Berkeley 1502
Investigations of the regulatory environment for operation of hazardous waste disposal in space

Period	*Obligations*	
05/01/76-06/30/76	FY76 $2,913	TOTAL: $2,913

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Laporte, T.	ARC/Wood, R. D.	39-Env Sci, NEC

NSG 3028 University of California - Berkeley 1503
Techniques for stabilization of lean combustion systems

Period	*Obligations*	
07/01/74-09/31/76	FY76: $99,803	TOTAL: $172,183

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Branch, M. C.	LERC/Marek, C. J.	46-Mech Engr
Oppenheim, A. K.	LERC/Grobman, J. S.	
Sawyer, R. F.		

NSG 5057 University of California - Berkeley 1504
X-ray observations of lacertids from OAO Copernicus

Period	*Obligations*	
03/01/75-02/29/76	FY76:	TOTAL: $8,505

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bowyer, C. S.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 5093 University of California - Berkeley 1505
Microwave scattering properties of snow fields

Period	*Obligations*	
02/01/76-01/31/77	FY76: $31,000	TOTAL: $31,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Angelakos, D. J.	GSFC/Chang, T. C.	49-Engr, NEC
	GSFC/Shiue, J. C.	

NSG 7127 University of California - Berkeley 1506
Mapping lunar surface remanent magnetic fields to develop the theory of solar winds cavity

Period	*Obligations*	
03/25/75-02/28/78	FY76: $83,145	TOTAL: $133,145

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, K. A.	HQ-SL/Williams, R. J.	39-Env Sci, NEC
	HQ-SL/Flinn, E. A.	

NSG 7139 University of California - Berkeley 1507
Pulse resolved spectrophotometry of Hz Hercules

Period	*Obligations*	
05/01/75-04/30/76	FY76:	TOTAL: $4,340

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bowyer, C. S.	HQ-SA/Rosendhal, J. D.	11-Astronomy
	HQ-SA/Roman, N. G.	

NASA'S UNIVERSITY PROGRAM
CALIFORNIA (Continued)

NSG 7152 **University of California - Berkeley** **1508**
Studies of solar system objects with the new hat creek millimeter wave length radio interferometer
Period *Obligations*
07/01/75-06/30/76 FY76: $34,429 TOTAL: $34,429
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Silver, S. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NSG 7205 **University of California - Berkeley** **1509**
Far infrared all-sky survey
Period *Obligations*
02/01/76-01/31/77 FY76: $20,000 TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Richards, P. L. HQ-SA/Boggess, N. W. 11-Astronomy
HQ-SA/Roman, N. G.

NSG 7220 **University of California - Berkeley** **1510**
Remote sensing to selected problems within the State of California
Period *Obligations*
05/01/76-04/30/79 FY76: $90,000 TOTAL: $90,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Colwell, R. N. HQ-P/Vitale, J. A. 39-Env Sci, NEC

NAS 2-8685 **University of California - Davis** **1511**
Study on amino acid metabolism in higher plants
Period *Obligations*
01/22/75-10/31/76 FY76: $12,500 TOTAL: $37,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mazelis, M. ARC/Taketa, S. T. 51-Biology

NAS 3-19850 **University of California - Davis** **1512**
X-ray fluorescence analysis
Period *Obligations*
07/03/75-07/03/76 FY76: $16,000 TOTAL: $16,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cahill, T. LERC/King, R. B. 47-Materials Engr

NAS 5-22964 **University of California - Davis** **1513**
Nimbus-G experiment team support for earth radiation budget
Period *Obligations*
02/18/76-02/18/79 FY76: $15,599 TOTAL: $15,599
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Coulson, K. L. GSFC/Nelson, D. 41-Aero Engr

NAS 9-13589 **University of California - Davis** **1514**
Study of bone mineral measurement. Medical experiment M-078
Period *Obligations*
07/02/73-10/31/76 FY76: $56,700 TOTAL: $187,865
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vogel, J. M. JSC/Smith, M. C., Jr. 52-Clinical Med
JSC/Wheeler, H. O.

NAS 9-14696 **University of California - Davis** **1515**
Development of a character line and point display system
Period *Obligations*
07/25/75-11/30/76 FY76: $13,000 TOTAL: $13,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Owens, E. W. JSC/Huffstetler, W. J. 45-Elec Engr

NCA 2-180501 **University of California - Davis** **1516**
Measurement of kinetics for chemisorption of a gas
Period *Obligations*
01/01/75-07/31/76 FY76: TOTAL: $12,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Baldwin, R. L. ARC/Zill, L. P. 53-Other Medical

NCA 2-180502 **University of California - Davis** **1517**
Development of a computer program based on the empirical pseudo-potential method
Period *Obligations*
04/01/75-03/31/76 FY76: TOTAL: $4,958
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fong, C. Y. ARC/Zill, L. P. 21-Mathematics

NCA 2-180503 **University of California - Davis** **1518**
Low density experimental threshold determination
Period *Obligations*
06/01/75-05/30/76 FY76: TOTAL: $4,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
White, B. R. ARC/Zill, L. P. 41-Aero Engr

NCA 2-180504 **University of California - Davis** **1519**
Analysis of EEG and other physiological data
Period *Obligations*
01/01/75-12/31/75 FY76: TOTAL: $13,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chapman, L. F. ARC/Zill, L. P. 61-Biol Aspects

NCA 2-180505 **University of California - Davis** **1520**
Blood protein and red cell turnover rate studies in dogs
Period *Obligations*
05/01/75-03/01/76 FY76: TOTAL: $6,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Evans, J. W. ARC/Zill, L. P. 51-Biology

NCA 2-180506 **University of California - Davis** **1521**
Human performance under selected environmental stresses
Period *Obligations*
05/15/75-12/31/75 FY76: TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bernauer, E. M. ARC/Zill, L. P. 61-Biol Aspects

NCA 2-180601 **University of California - Davis** **1522**
Human performance under selected environmental stresses
Period *Obligations*
01/01/76-12/31/76 FY76: $5,500 TOTAL: $5,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bernauer, E. M. ARC/Zill, L. P. 52-Clinical Med

NASA'S UNIVERSITY PROGRAM
CALIFORNIA (Continued)

NCA 2-180605 **University of California - Davis** 1523
Particle movement of simulated Mars surface material
Period *Obligations*
06/01/76-07/15/77 FY76: $5,225 TOTAL: $5,225
Prin. Invest. *NASA Tech. Officer* *CASE Category*
White, B. R. HQ/Pollack, J. B. 32-Geological Sci

NCA 2-180607 **University of California - Davis** 1524
Investigations into the prediction of soil moisture
Period *Obligations*
03/01/76-02/28/78 FY76: $7,000 TOTAL: $7,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hatfield, J. L. ARC/Millard, J. 32-Geological Sci

NGL 05-004-008 **University of California - Davis** 1525
Physiological effects of chronic acceleration
Period *Obligations*
03/01/65-01/31/79 FY76: $35,000 TOTAL: $815,797
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smith, A. H. ARC/Oyama, J. 51-Biology

NGR 05-004-006 **University of California - Davis** 1526
Self-consistent study of trapped radiation in the geomagnetic field
Period *Obligations*
02/01/66-02/01/77 FY76: TOTAL: $19,177
Prin. Invest. *NASA Tech. Officer* *CASE Category*
McIlwain, C. E. HQ-ST/Schmerling, E. R.
32-Geological Sci

NGR 05-004-099 **University of California - Davis** 1527
Investigation of the effect of altered gravity on temperature regulation in mammals
Period *Obligations*
11/20/73-11/19/76 FY76: $15,000 TOTAL: $44,999
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Horowitz, J. M. ARC/Holton, E. M. 51-Biology

NSG 5092 **University of California - Davis** 1528
Use of remote data in hydrologic engineering models
Period *Obligations*
02/01/76-10/31/76 FY76: $50,000 TOTAL: $50,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Algazi, V. R. GSFC/Salomonson, V. V.
39-Env Sci, NEC

NGR 05-041-012 **University of California - Irvine** 1529
Diagnosis of preclinical viral illness and prophylaxis against viral disease
Period *Obligations*
07/13/71-11/31/76 FY76: $35,000 TOTAL: $174,342
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tilles, J. G. ARC/Mandel, A. D. 52-Clinical Med

NSG 7208 **University of California - Irvine** 1530
Gas phase reactions of chlorine and fluorine compounds of interest for stratospheric chemistry
Period *Obligations*
01/01/76-09/30/76 FY76: $59,720 TOTAL: $59,720
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Molina, M. J. HQ-SU/Reed, E. F. 31-Atmos Sci

C-00166C **University of California - Los Angeles** 1531
Testing of various substrates
Period *Obligations*
02/19/76-04/20/76 FY76: $3,000 TOTAL: $3,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Unavailable Unavailable 47-Materials Engr

NAS 2-7251 **University of California - Los Angeles** 1532
Pioneer FG data analysis
Period *Obligations*
10/13/72-09/30/76 FY76: $90,000 TOTAL: $279,670
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Coleman, P. J., Jr. ARC/Hall, C. F. 11-Astronomy
ARC/Porter, D. L.

NAS 2-7785 **University of California - Los Angeles** 1533
Computer studies
Period *Obligations*
09/13/73-08/20/76 FY76: TOTAL: $71,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dixon, W. J. ARC/Polentz, P. P. 41-Aero Engr
ARC/Erickson, L. L.

NAS 2-8808 **University of California - Los Angeles** 1534
Pioneer Venus magnetometer
Period *Obligations*
03/04/75-08/31/78 FY76: $315,000 TOTAL: $350,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Russell, C. T. ARC/Hall, C. F. 19-Phys Sci, NEC
Snare, R. C. ARC/Sinnott, D. B.

NAS 2-9128 **University of California - Los Angeles** 1535
Interdisciplinary scientist, Pioneer/Venus program
Period *Obligations*
02/09/76-10/01/76 FY76: $1,759 TOTAL: $1,759
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kaula, W. M. ARC/Hall, C. F. 11-Astronomy
ARC/Porter, D. L.

NAS 2-9131 **University of California - Los Angeles** 1536
Interdisciplinary scientist, Pioneer/Venus program
Period *Obligations*
02/09/76-10/01/76 FY76: $2,883 TOTAL: $2,883
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Schubert, G. ARC/Hall, C. F. 11-Astronomy
ARC/Porter, D. L.

CALIFORNIA (Continued)

NAS 4-1995 **University of California - Los Angeles** 1537
UCLA computer time
Period *Obligations*
05/24/73-06/30/74 FY76: TOTAL: $22,044
Prin. Invest *NASA Tech Officer* *CASE Category*
Unavailable DFRC/Carter, A. L. 41-Aero Engr

NAS 5-11674 **University of California - Los Angeles** 1538
Magnetometer experiment for the ATS-F
Period *Obligations*
04/29/69-10/31/76 FY76: $111,965 TOTAL: $609,465
Prin. Invest *NASA Tech Officer* *CASE Category*
McPherron, R. L. GSFC/Wales, R. O. 32-Geological Sci

NAS 5-20064 **University of California - Los Angeles** 1539
Magnetic field investigation for ISEE mother/daughter spacecraft
Period *Obligations*
06/05/74-10/31/79 FY76: $229,000 TOTAL: $538,006
Prin. Invest *NASA Tech Officer* *CASE Category*
Russell, C. T. GSFC/Davis, M. A. 13-Physics

NAS 6-2463 **University of California - Los Angeles** 1540
GEOS-C research into tectonics of ocean
Period *Obligations*
04/18/74-04/30/76 FY76: $23,500 TOTAL: $96,500
Prin. Invest *NASA Tech Officer* *CASE Category*
Kaula, W. M. WFC/Stanley, H. R. 33-Oceanography
Lingenfelter, R. E. WFC/Rossi, L. C.
Schubert, G.

NAS 6-2703 **University of California - Los Angeles** 1541
Services and materials necessary for the construction of initial synoptic ocean dynamics models for the east coast test area and related activities
Period *Obligations*
01/15/76-01/14/77 FY76: $54,484 TOTAL: $54,484
Prin. Invest *NASA Tech Officer* *CASE Category*
Mintz, Y. WFC/Stanley, H. R. 33-Oceanography
Semtner, A. J. WFC/Huang, N.

NAS 8-28310 **University of California - Los Angeles** 1542
Metal and halide eutectics, Skylab experiment
Period *Obligations*
11/02/72-06/30/75 FY76: TOTAL: $49,967
Prin. Invest *NASA Tech Officer* *CASE Category*
Yue, A. S. MSFC/Adams, W. R. 19-Phys Sci, NEC
MSFC/Aldrich, B. R.

NAS 8-28358 **University of California - Los Angeles** 1543
Study of control systems for advanced space vehicles
Period *Obligations*
02/15/72-01/15/77 FY76: $22,000 TOTAL: $93,818
Prin. Invest *NASA Tech Officer* *CASE Category*
Likins, P. W. MSFC/Seltzer, S. M. 49-Engr, NEC
MSFC/Nurre, G. S.

NAS 8-30579 **University of California - Los Angeles** 1544
Zero solidification of a sodium chloride-lithium fluoride eutectic mixture
Period *Obligations*
01/11/74-03/31/76 FY76: TOTAL: $54,700
Prin. Invest *NASA Tech Officer* *CASE Category*
Yue, A. S. MSFC/Adams, W. R. 19-Phys Sci, NEC
MSFC/Boese, A.

NAS 8-31710 **University of California - Los Angeles** 1545
Space processing applications shuttle payload requirements specification study
Period *Obligations*
09/26/75-03/26/76 FY76: $4,992 TOTAL: $4,992
Prin. Invest *NASA Tech Officer* *CASE Category*
Bunshah, R. F. MSFC/Taylor, K. R. 19-Phys Sci, NEC

NCA 2-390402 **University of California - Los Angeles** 1546
In situ high-temperature controlled-atmosphere electron microscopy to study nuclei formation
Period *Obligations*
10/01/73-10/01/75 FY76: TOTAL: $6,999
Prin. Invest *NASA Tech Officer* *CASE Category*
Douglass, D. L. ARC/Zill, L. P. 12-Chemistry

NCA 2-390405 **University of California - Los Angeles** 1547
Automated structural design
Period *Obligations*
01/01/74-09/01/75 FY76: TOTAL: $9,627
Prin. Invest *NASA Tech Officer* *CASE Category*
Schmit, L. A. ARC/Zill, L. P. 41-Aero Engr

NCA 2-390501 **University of California - Los Angeles** 1548
Comparison of real-time digital algorithms for the extraction of pitch in speech
Period *Obligations*
08/15/74-06/30/75 FY76: TOTAL: $3,366
Prin. Invest *NASA Tech Officer* *CASE Category*
Carterette, E. C. ARC/Zill, L. P. 21-Mathematics

NCA 2-390502 **University of California - Los Angeles** 1549
Role of prolactin and vasopressin in regulation of water and salt balance
Period *Obligations*
09/01/74-08/31/75 FY76: TOTAL: $11,855
Prin. Invest *NASA Tech Officer* *CASE Category*
Parlow, A. ARC/Zill, L. P. 53-Other Medical

NCA 2-390503 **University of California - Los Angeles** 1550
Development of techniques to separate diezomagnet signals of seismic origin
Period *Obligations*
09/15/74-09/30/75 FY76: TOTAL: $6,000
Prin. Invest *NASA Tech Officer* *CASE Category*
Coleman, P. J., Jr. ARC/Zill, L. P. 32-Geological Sci

NCA 2-390601 **University of California - Los Angeles** **1551**
Concentrations of glycotroprotein hormones and prolactin
Period *Obligations*
09/01/75-08/31/76 FY76: $13,149 TOTAL: $13,149
Prin. Invest. *NASA Tech Officer* *CASE Category*
Parlow, A. ARC/Zill, L. P. 51-Biology

NCA 2-390602 **University of California - Los Angeles** **1552**
Automated structural design and use of NASA facilities for computer program checkout
Period *Obligations*
10/01/75-06/30/76 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Schmit, L. A. ARC/Zill, L. P. 21-Mathematics
Miura, H.

NGL 05-007-002 **University of California - Los Angeles** **1553**
Theoretical evaluation of the internal structures and atmospheres of planets and the moon
Period *Obligations*
01/01/62-12/31/78 FY76: $150,748 TOTAL: $727,552
Prin. Invest. *NASA Tech Officer* *CASE Category*
Kaula, W. M. HQ-SM/Stuart-Alexander D. E.
32-Geological Sci
Schubert, G. HQ-SL/Flinn, E. A.

NGL 05-007-003 **University of California - Los Angeles** **1554**
Interdisciplinary space oriented research in physical, biological and engineering sciences
Period *Obligations*
03/01/62-03/31/75 FY76: TOTAL: $4,840,654
Prin. Invest. *NASA Tech Officer* *CASE Category*
Libby, W. F. HQ-P/Redding, E. R. 99-Multi-Discip

NGL 05-007-004 **University of California - Los Angeles** **1555**
Theoretical & experimental investigations of particles & fields in space, including construction of prototype instrumentation
Period *Obligations*
03/01/62-09/30/78 FY76: $150,000 TOTAL: $2,330,554
Prin. Invest. *NASA Tech Officer* *CASE Category*
Coleman, P. J., Jr. HQ-ST/Cauffman, D. P.
39-Env Sci, NEC
HQ-ST/Schmerling, E. R.

NGL 05-007-005 **University of California - Los Angeles** **1556**
Isotopic chemistry of meteorites, including studies of variation in isotopic abundances among discrete specimens
Period *Obligations*
09/20/62-08/31/76 FY76: TOTAL: $312,344
Prin. Invest. *NASA Tech Officer* *CASE Category*
Wetherill, G. W. HQ-SL/Donn, B. D. 11-Astronomy
HQ-SM/Bryson, R. P.

NGL 05-007-006 **University of California - Los Angeles** **1557**
Studies on the high pressure solid phases of inert gases, particularly as they might relate to planetary interiors
Period *Obligations*
09/24/62-09/30/76 FY76: TOTAL: $470,622
Prin. Invest. *NASA Tech Officer* *CASE Category*
Kennedy, G. C. HQ-SM/Bryson, R. P. 32-Geological Sci
HQ-SM/Roberson, F. I.

NGL 05-007-190 **University of California - Los Angeles** **1558**
Theoretical space plasma physics
Period *Obligations*
06/27/68-09/30/78 FY76: $50,000 TOTAL: $333,380
Prin. Invest. *NASA Tech Officer* *CASE Category*
Kennel, C. F. HQ-ST/Taylor, W. W. 19-Phys Sci, NEC
HQ-ST/Schmerling, E. R.

NGL 05-007-330 **University of California - Los Angeles** **1559**
Lunar sample analysis
Period *Obligations*
05/18/71-07/31/76 FY76: TOTAL: $200,050
Prin. Invest. *NASA Tech Officer* *CASE Category*
Warren, N. JSC/Harris, J. W. 13-Physics

NGL 05-007-367 **University of California - Los Angeles** **1560**
Lunar sample analysis
Period *Obligations*
06/30/72-01/31/77 FY76: $109,500 TOTAL: $346,570
Prin. Invest. *NASA Tech Officer* *CASE Category*
Wasson, J. T. JSC/Harris, J. W. 12-Chemistry

NGL 05-007-379 **University of California - Los Angeles** **1561**
Flight dynamics analysis and system identification
Period *Obligations*
12/01/72-11/30/77 FY76: TOTAL: $124,548
Prin. Invest. *NASA Tech Officer* *CASE Category*
Balakrishnan, A. V. DFRC/Rediess, H. A. 41-Aero Engr

NGR 05-007-221 **University of California - Los Angeles** **1562**
Nature and changes of organic matter in deep ocean cores
Period *Obligations*
08/08/69-12/31/76 FY76: $59,000 TOTAL: $394,415
Prin. Invest. *NASA Tech Officer* *CASE Category*
Kaplan, I. R. HQ-SB/Young, R. S. 32-Geological Sci

NGR 05-007-276 **University of California - Los Angeles** **1563**
Data analysis on the OGO-3 and OGO-4 search coil magnetometers
Period *Obligations*
04/03/70-10/31/76 FY76: $20,000 TOTAL: $180,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Holzer, R. E. HQ-ST/Cauffman, D. P. 13-Physics
HQ-ST/Schmerling, E. R.

CALIFORNIA (Continued)

NGR 05-007-289 **University of California - Los Angeles** **1564**
Lunar sample analysis

Period	Obligations	
12/29/70-01/31/77	FY76: $109,900	TOTAL: $423,680

Prin. Invest	NASA Tech. Officer	CASE Category
Kaplan, I. R.	JSC/Harris, J. W.	13-Physics

NGR 05-007-317 **University of California - Los Angeles** **1565**
Photogeologic interpretation of Mariner Mars 1969 imagery

Period	Obligations	
03/09/71-01/14/77	FY76: $14,875	TOTAL: $83,971

Prin. Invest	NASA Tech. Officer	CASE Category
Schubert, G.	HQ-SL/Dwornik, S. E. HQ-SL/Holt, H. E.	32-Geological Sci

NGR 05-007-323 **University of California - Los Angeles** **1566**
Research in aeronautics & air transportation

Period	Obligations	
03/25/71-10/01/77	FY76:	TOTAL: $229,834

Prin. Invest	NASA Tech. Officer	CASE Category
Meecham, W. C.	ARC/Anderson, A. E.	41-Aero Engr
Cole, J. D.	ARC/Levin, A. D.	

NGR 05-007-328 **University of California - Los Angeles** **1567**
Numerical modeling of the global atmosphere and the world oceans

Period	Obligations	
08/15/71-01/31/77	FY76: $55,340	TOTAL: $350,649

Prin. Invest	NASA Tech. Officer	CASE Category
Mintz, Y.	GSFC/Halem, M.	31-Atmos Sci
Arakawa, A.		
Yanai, M.		

NGR 05-007-329 **University of California - Los Angeles** **1568**
Elemental variations in genetically related meteorites

Period	Obligations	
04/27/71-02/28/79	FY76: $116,833	TOTAL: $274,850

Prin. Invest	NASA Tech. Officer	CASE Category
Wasson, J. T.	HQ-SL/French, B. M. HQ-SL/Flinn, E. A.	32-Geological Sci

NGR 05-007-337 **University of California - Los Angeles** **1569**
Approximation concepts in structural synthesis

Period	Obligations	
04/05/72-01/31/77	FY76:	TOTAL: $263,863

Prin. Invest	NASA Tech. Officer	CASE Category
Schmit, L. A.	LARC/Stroud, W. J.	41-Aero Engr

NGR 05-007-338 **University of California - Los Angeles** **1570**
Biocompatibility and other essential characteristics of several new plastics and new metal alloys for possible use in total joint replacements

Period	Obligations	
12/01/71-07/31/76	FY76:	TOTAL: $61,255

Prin. Invest	NASA Tech. Officer	CASE Category
Amstutz, H. C.	LERC/Johnson, R. L.	47-Materials Engr

NGR 05-007-351 **University of California - Los Angeles** **1571**
Correlative studies of Apollo 15 and 16 satellite magnetometer data with the Explorer 35 and lunar surface magnetometer data

Period	Obligations	
05/25/72-01/31/77	FY76: $107,380	TOTAL: $423,279

Prin. Invest	NASA Tech. Officer	CASE Category
Coleman, P. J., Jr.	HQ-SL/Williams, R. J.	32-Geological Sci
Russell, C. T.	HQ-SL/Flinn, E. A.	
Hubert, S. C.		

NGR 05-007-395 **University of California - Los Angeles** **1572**
Computational techniques for unsteady transflow

Period	Obligations	
02/07/73-02/28/76	FY76:	TOTAL: $35,380

Prin. Invest	NASA Tech. Officer	CASE Category
Cole, J. D.	LARC/Bland, S. R.	41-Aero Engr
Krupp, J. A.	LARC/Bennett, R. M.	

NGR 05-007-407 **University of California - Los Angeles** **15[illegible]**
Paleobiologic studies of the antiquity and precambrian evolution of life

Period	Obligations	
04/10/73-05/31/77	FY76: $33,604	TOTAL: $121,054

Prin. Invest	NASA Tech. Officer	CASE Category
Schopf, J. W.	HQ-SB/Young, R. S.	32-Geological Sci

NGR 05-007-414 **University of California - Los Angeles** **1574**
Aeroelastic stability of helicopter blades in hover and in forward flight using various unsteady aerodynamic theories

Period	Obligations	
09/01/73-08/31/76	FY76: $38,817	TOTAL: $98,808

Prin. Invest	NASA Tech. Officer	CASE Category
Friedmann, P.	LARC/Hammond, C. E. LARC/Kvaternik, R. G.	41-Aero Engr

NGR 05-007-416 **University of California - Los Angeles** **1575**
Research on interaction of satellite-speed helium atoms with aluminum and quartz surfaces

Period	Obligations	
10/09/73-05/09/77	FY76: $25,000	TOTAL: $110,381

Prin. Invest	NASA Tech. Officer	CASE Category
Knuth, E. L.	LARC/Keating, G. M.	13-Physics
Liu, S. M.	LARC/Lee, R. B., III	

NGR 05-007-418 **University of California - Los Angeles** **1576**
Utricular influences on visual motor control research

Period	Obligations	
09/01/73-08/31/76	FY76: $19,000	TOTAL: $68,713

Prin. Invest	NASA Tech. Officer	CASE Category
Markham, C. H.	ARC/Daunton, N. G.	51-Biology
Estes, M. S.	ARC/Mehler, W. R.	

NGR 05-007-489 **University of California - Los Angeles** **1577**
Investigation of shell stars and eclipsing binaries

Period	Obligations	
05/01/74-04/30/75	FY76:	TOTAL: $13,400

Prin. Invest	NASA Tech. Officer	CASE Category
Plavec, M.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 1270 **University of California - Los Angeles** **1578**
Space borne and ground based polarimeter to monitor atmospheric aerosols

Period	*Obligations*	
01/01/76-12/31/76	FY76: $30,267	TOTAL: $30,267
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kuriyan, J. G.	LARC/McCormick, M. P.	31-Atmos Sci

NSG 2094 **University of California - Los Angeles** **1579**
General circulation of the Venus atmosphere

Period	*Obligations*	
07/01/75-08/31/76	FY76: $28,385	TOTAL: $28,385
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schubert, G.	ARC/Pollack, J. ARC/Reynolds, R. T.	31-Atmos Sci

NSG 2115 **University of California - Los Angeles** **1580**
In situ small cluster mobility studies

Period	*Obligations*	
12/15/75-12/14/76	FY76: $22,764	TOTAL: $22,764
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Douglass, D. L. Heineniann, K.	ARC/Poppa, H. R.	13-Physics

NSG 3082 **University of California - Los Angeles** **1581**
Investigation of aeroelastic effects in wind turbines

Period	*Obligations*	
09/01/75-08/31/77	FY76: $68,273	TOTAL: $68,273
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Friedman, P. P.	LERC/Savino, J. M. LERC/Thomas, R. L.	46-Mech Engr

NSG 4001 **University of California - Los Angeles** **1582**
Short-time climatology related to air turbulence

Period	*Obligations*	
03/01/74-06/30/77	FY76: $35,388	TOTAL: $79,632
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wurtele, M. G.	DFRC/Ehernberger, L. J.	31-Atmos Sci

NSG 5056 **University of California - Los Angeles** **1583**
Investigation of the far UV spectra of the pole on be stars Cen and Cyg

Period	*Obligations*	
02/01/75-09/30/76	FY76:	TOTAL: $8,623
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peters, C. J.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 5070 **University of California - Los Angeles** **1584**
Depletions and physical conditions within diffuse interstellar clouds

Period	*Obligations*	
10/01/75-09/30/77	FY76:	TOTAL: $2,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jura, M. A.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 7002 **University of California - Los Angeles** **1585**
Anelastic models of fault zone tectonics and their measurement by space techniques

Period	*Obligations*	
11/01/73-12/31/76	FY76: $6,000	TOTAL: $122,110
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kaula, W. M. Schubert, G.	HQ-ES/Murphy, J. P. GSFC/Smith, D. E.	32-Geological Sci

NSG 7052 **University of California - Los Angeles** **1586**
Shock processes in terrestrial analogs of porous lunar & meteoritic materials

Period	*Obligations*	
04/01/74-01/31/78	FY76: $52,500	TOTAL: $102,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kieffer, S. W.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7113 **University of California - Los Angeles** **1587**
Dynamical studies of solar system origin and evolution

Period	*Obligations*	
01/01/75-01/31/76	FY76:	TOTAL: $9,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kaula, W. M.	HQ-SL/Dwornik, S. E. HQ-SL/Holt, H. E.	11-Astronomy

NSG 7158 **University of California - Los Angeles** **1588**
Three dimensional study of solar oscillation

Period	*Obligations*	
07/01/75-10/01/76	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ulrich, R. K.	HQ-ST/Timothy, A. F.	13-Physics

NSG 7164 **University of California - Los Angeles** **1589**
Dynamical studies of the Venus atmosphere

Period	*Obligations*	
09/01/75-08/31/76	FY76: $21,813	TOTAL: $21,813
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schubert, G.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NSG 7180 **University of California - Los Angeles** **1590**
Investigation of the subsonic magnetosheath plasma and magnetic field data from Explorer

Period	*Obligations*	
10/01/75-09/30/76	FY76: $19,989	TOTAL: $19,989
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Siscoe, G. L.	[illegible]Q-ST/Cauffman, D. P.	39-Env Sci, NEC

NSG 7239 **University of California - Los Angeles** **1591**
Possible correlations between the interplanetary magnetic field and zodiacal light polarization vectors

Period	*Obligations*	
06/01/76-09/30/77	FY76: $15,135	TOTAL: $15,135
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Aller, L. H.	HQ-SL/Fellows, R. F. HQ-SL/Donn, B. D.	31-Atmos Sci

NASA'S UNIVERSITY PROGRAM
CALIFORNIA (Continued)

NGL 05-008-005 **University of California - Riverside** **1592**
Atomic scattering theory

Period	*Obligations*	
11/29/66-02/28/79	FY76: $10,000	TOTAL: $130,953
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Poe, R. T.	GSFC/Temkin, A.	13-Physics

NGR 05-008-022 **University of California - Riverside** **1593**
Measurement of neutrons from sun

Period	*Obligations*	
05/16/69-08/14/76	FY76: $42,000	TOTAL: $312,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
White, R. S.	HQ-SA/Sofia, S. HQ-SA/Opp, A. G.	11-Astronomy

NAS 2-6552 **University of California - San Diego** **1594**
Data analysis of Jovian trapped radiation by Pioneer F/G

Period	*Obligations*	
01/25/72-06/30/76	FY76: $176,480	TOTAL: $658,551
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fillius, R. W.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 5-11080 **University of California - San Diego** **1595**
Cosmic X-ray experiment OSO-H

Period	*Obligations*	
09/13/67-10/31/75	FY76:	TOTAL: $2,103,131
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baity, W. A. Ulmer, A.	GSFC/Berko, F. W.	19-Phys Sci, NEC

NAS 5-11081 **University of California - San Diego** **1596**
Soft & hard solar X-ray experiment for OSO

Period	*Obligations*	
09/13/67-06/30/75	FY76:	TOTAL: $2,161,543
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peterson, L. F	GSFC/Donley, J. L.	31-Atmos Sci

NAS 5-21055 **University of California - San Diego** **1597**
Programmable auroral particles experiment to be flown on the ATS-F

Period	*Obligations*	
06/27/69-04/30/76	FY76: $100,656	TOTAL: $1,313,656
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McIlwain, C. E.	GSFC/Wales, R. O.	13-Physics

NAS 5-22375 **University of California - San Diego** **1598**
Hard X-ray imaging system study

Period	*Obligations*	
05/13/75-09/30/76	FY76: $84,126	TOTAL: $111,014
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peterson, L. E.	GSFC/White, A. F., Jr.	11-Astronomy

NAS 5-22556 **University of California - San Diego** **1599**
Mission definition study of an astronomical satellite survey in the infrared

Period	*Obligations*	
06/15/75-09/19/76	FY76: $14,585	TOTAL: $14,585
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Soifer, B. T.	GSFC/Hymowitz, E. W.	11-Astronomy

NAS 5-23481 **University of California - San Diego** **1600**
A spacecraft charging study

Period	*Obligations*	
05/03/76-05/02/77	FY76: $99,596	TOTAL: $99,596
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McIlwain, C. E.	GSFC/Bartlett, R. O.	11-Astronomy

NAS 6-2506 **University of California - San Diego** **1601**
GEOS-C research

Period	*Obligations*	
12/17/74-06/17/77	FY76: $20,000	TOTAL: $53,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hendershott, M. Munk, W. Zetler, B.	WFC/Stanley, H. R.	11-Astronomy

NAS 8-27974 **University of California - San Diego** **1602**
Design & development of AGR-4 meV range gamma ray telescope experiment under the HEAO program

Period	*Obligations*	
06/22/72-04/15/78	FY76: $1,105,000	TOTAL: $5,853,019
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peterson, L. E.	MSFC/Jordan, W. E. MSFC/Jones, J. B.	11-Astronomy

NAS 8-28015 **University of California - San Diego** **1603**
Solar flare infrared observations

Period	*Obligations*	
10/26/71-09/01/74	FY76:	TOTAL: $90,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hudson, H. S.	MSFC/Fountain, W. F. MSFC/Wdowiak, T. J.	11-Astronomy

NAS 8-31145 **University of California - San Diego** **1604**
Joint analysis of satellite data study

Period	*Obligations*	
12/17/74-10/16/76	FY76: $17,706	TOTAL: $31,557
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McIlwain, C. E.	MSFC/Chappell, C. R. MSFC/Fields, S. A.	13-Physics

NAS 8-31839 **University of California - San Diego** **1605**
Definition study of electromagnetic force current generator

Period	*Obligations*	
02/05/76-08/05/76	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Banks, P. M. Williamson, P. R.	MSFC/Roberts, W. T. MSFC/Chappell, C. R.	13-Physics

NGL 05-005-003 **University of California - San Diego** **1606**
Laboratory and balloon experiments in X-ray and gamma ray astronomy

Period	Obligations	
09/15/62-11/30/76	FY76: $225,000	TOTAL: $1,940,752

Prin. Invest.	NASA Tech. Officer	CASE Category
Peterson, L. E. Pelling, R. M.	HQ-SA/Opp, A. G.	13-Physics

NGL 05-005-004 **University of California - San Diego** **1607**
Theoretical studies in astrophysics

Period	Obligations	
02/04/63-03/31/79	FY76: $56,000	TOTAL: $719,633

Prin. Invest.	NASA Tech. Officer	CASE Category
Gould, R. J. Burbidge, G. R.	HQ-SA/Roman, N. G. HQ-SA/Rosendhal, J. D.	11-Astronomy

NGL 05-005-007 **University of California - San Diego** **1608**
Study of geomagnetically trapped particles by Explorer & Injun satellite data, refining particle detectors, detector systems & telemetered-data processing equipment

Period	Obligations	
02/20/64-09/30/78	FY76: $223,000	TOTAL: $1,920,894

Prin. Invest.	NASA Tech. Officer	CASE Category
McIlwain, C. E.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

NGL 05-009-002 **University of California - San Diego** **1609**
Studies of the composition and structure of meteorites

Period	Obligations	
10/02/63-02/28/79	FY76: $76,130	TOTAL: $600,154

Prin. Invest.	NASA Tech. Officer	CASE Category
Arrhenius, G.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NGL 05-009-004 **University of California - San Diego** **1610**
Research on interaction of meteorites & cosmic rays; consideration of origin & history of meteorites

Period	Obligations	
12/19/62-03/14/79	FY76: $57,033	TOTAL: $941,247

Prin. Invest.	NASA Tech. Officer	CASE Category
Arnold, J. R.	HQ-SL/French, B. F. HQ-SL/Flinn, E. A.	32-Geological Sci

NGL 05-009-005 **University of California - San Diego** **1611**
Research on general geochemical problems, including meteorite materials, rare gas content of meteorites & separation in gas phase at time of formation of solar system

Period	Obligations	
10/31/62-02/28/79	FY76: $27,000	TOTAL: $492,707

Prin. Invest.	NASA Tech. Officer	CASE Category
Suess, H. E. Herndon, J. M.	HQ-SL/French, B. M. HQ-SL/Flinn, E. A.	19-Phys Sci, NEC

NGL 05-009-109 **University of California - San Diego** **1612**
In-flight evaluation of weightlessness and gravity on cardiopulmonary function of man

Period	Obligations	
02/17/69-10/31/78	FY76: $75,000	TOTAL: $727,351

Prin. Invest.	NASA Tech. Officer	CASE Category
West, J. B.	ARC/Billingham, J. ARC/Johnson, R. D.	53-Other Medical

NGL 05-009-148 **University of California - San Diego** **1613**
Lunar sample analysis

Period	Obligations	
02/11/71-01/31/79	FY76: $94,000	TOTAL: $674,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Arnold, J. R.	JSC/Harris, J. W.	12-Chemistry

NGL 05-009-150 **University of California - San Diego** **1614**
Lunar sample analysis

Period	Obligations	
02/01/71-01/31/78	FY76: $208,700	TOTAL: $930,092

Prin. Invest.	NASA Tech. Officer	CASE Category
Marti, K.	JSC/Harris, J. W.	12-Chemistry

NGL 05-009-230 **University of California - San Diego** **1615**
Infrared astronomy research

Period	Obligations	
03/08/73-12/01/76	FY76:	TOTAL: $109,341

Prin. Invest.	NASA Tech. Officer	CASE Category
Soifer, B. T. Stein, W. A.	ARC/Cameron, R. M. ARC/Gillespie,jr., C. M.	11-Astronomy

NGR 05-005-005 **University of California - San Diego** **1616**
Study of lunar gamma ray emission

Period	Obligations	
09/10/63-01/31/77	FY76: $81,365	TOTAL: $606,843

Prin. Invest.	NASA Tech. Officer	CASE Category
Arnold, J. R. Peterson, L. E.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NGR 05-005-055 **University of California - San Diego** **1617**
Infrared astronomic observation from high altitude airplane/telescope program

Period	Obligations	
06/05/73-08/30/76	FY76: $65,000	TOTAL: $136,217

Prin. Invest.	NASA Tech. Officer	CASE Category
Stein, W. A. Gillett, F. C.	ARC/Cameron, R. M. ARC/Gillespie, C. M., Jr.	11-Astronomy

NGR 05-009-075 **University of California - San Diego** **1618**
Velocity distributions and electron moment equations

Period	Obligations	
09/13/67-02/28/77	FY76: $70,000	TOTAL: $432,784

Prin. Invest.	NASA Tech. Officer	CASE Category
Banks, P. M.	HQ-ST/Taylor, W. W.	13-Physics

CALIFORNIA (Continued)

NGR 05-009-076 University of California - San Diego 1619

Theory of wave propagation and wave-particle interaction in the earth's magnetosphere

Period	*Obligations*	
10/19/67-09/30/76	FY76: $35,000	TOTAL: $358,656
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fejer, J. A.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

NGR 05-009-081 University of California - San Diego 1620

Theoretical studies of fields, particles and plasmas in space

Period	*Obligations*	
02/08/68-09/30/75	FY76:	TOTAL: $422,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Axford, W. I.	HQ-ST/Schmerling, E. R.	13-Physics

NGR 05-009-083 University of California - San Diego 1621

Electrophysiological studies of the nervous system

Period	*Obligations*	
01/01/68-09/01/78	FY76:	TOTAL: $113,059
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Galambos, R.	ARC/Winter, D. L.	61-Biol Aspects

NGR 05-009-110 University of California - San Diego 1622

The structure and evolution of the asteroid belt

Period	*Obligations*	
01/23/70-08/31/76	FY76: $45,000	TOTAL: $383,690
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Alfven, H.	HQ-SL/Fellows, R. F. HQ-SL/Donn, B. D.	11-Astronomy

NGR 05-009-178 University of California - San Diego 1623

Measurement of fluctuations in turbulent boundary layers with heterogeneous composition

Period	*Obligations*	
02/16/72-09/01/76	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Libby, P. A.	LARC/Gessow, A. LARC/Bertram, M. H.	41-Aero Engr

NGR 05-009-188 University of California - San Diego 1624

Construction of a 200 channel photometer for use in low light level astronomy

Period	*Obligations*	
05/17/72-06/30/76	FY76: $150,000	TOTAL: $550,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McIlwain, C. E. Beaver, E. A. Harms, H.A.	HQ-SA/Aucremanne, M. J. GSFC/Sobieski, S.	11-Astronomy

NGR 05-009-198 University of California - San Diego 1625

Mechanisms of alertness in man

Period	*Obligations*	
05/24/72-05/31/77	FY76:	TOTAL: $183,479
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Galambos, R.	ARC/Anliker, J. E. ARC/Nagel, D. C.	59-Life Sci, NEC

NGR 05-009-213 University of California - San Diego 1626

Hydrostatic pressure and macro-molecular synthesis in marine bacteria

Period	*Obligations*	
04/12/73-05/31/77	FY76: $40,000	TOTAL: $129,954
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Yayanos, A. A.	HQ-SB/Young, R. S.	51-Biology

NGR 05-009-218 University of California - San Diego 1627

An automatic analyzer for amino acids purines and pyrimidines to examine lunar and Martian soil samples

Period	*Obligations*	
09/12/72-08/15/76	FY76: $41,132	TOTAL: $163,364
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Miller, S. L.	HQ-SB/Young, R. S.	12-Chemistry

NGR 05-009-226 University of California - San Diego 1628

Absolute GF-value and hydrogen atom collision

Period	*Obligations*	
04/12/73-08/31/75	FY76:	TOTAL: $47,117
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Penner, S. S.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 05-009-239 University of California - San Diego 1629

Low resolution spectrograph for the large space telescope

Period	*Obligations*	
10/01/73-06/30/77	FY76: $3,959	TOTAL: $22,464
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Beaver, E. A. McIlwain, C. E. Burbidge, E. M.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NGR 05-009-246 University of California - San Diego 1630

Geophysical perturbations on satellite geodesy

Period	*Obligations*	
11/01/73-10/31/76	FY76: $186,955	TOTAL: $334,955
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Berger, J. Brune, J. N.	GSFC/Carpenter, L.	39-Env Sci, NEC

NGR 05-009-257 University of California - San Diego 1631

Single scan television radiography

Period	*Obligations*	
11/01/73-10/31/76	FY76: $50,000	TOTAL: $128,979
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baily, N. A.	ARC/Sandler, H.	52-Clinical Med

NGR 05-009-260 University of California - San Diego 1632

Rapid quality control of photographs

Period	*Obligations*	
03/18/74-07/31/76	FY76:	TOTAL: $17,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lee, S. H.	GSFC/Shulman, A. R. GSFC/Webb, W. C.	13-Physics

NASA'S UNIVERSITY PROGRAM
CALIFORNIA (Continued)

NGR 05-009-264 **University of California - San Diego** **1633**
Optical parallel processing
Period *Obligations*
03/15/74-07/31/77 FY76: $30,000 TOTAL: $92,100
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lee, S. H. GSFC/Schaefer, D. H. 49-Engr, NEC

NSG 3034 **University of California - San Diego** **1634**
Preparation and identification of hybrides of intermetallic compounds
Period *Obligations*
08/01/74-07/31/77 FY76: TOTAL: $64,331
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Oesterreicher, H. LERC/Woollam, J. A. 47-Materials Engr

NSG 3047 **University of California - San Diego** **1635**
Investigation of droplet burning at zero g
Period *Obligations*
06/01/75-05/31/77 FY76: $25,000 TOTAL: $50,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Williams, F. A. LERC/Cochran, T. H. 43-Chem Engr

NSG 3055 **University of California - San Diego** **1636**
Chemical vapor deposition of high Tc superconductors
Period *Obligations*
05/01/75-02/28/77 FY76: $45,000 TOTAL: $105,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Webb, G. W. LERC/Woollam, J. A. 19-Phys Sci, NEC
Engelhardt, J. J.

NSG 3103 **University of California - San Diego** **1637**
Superconductivity in ternary molybdenum sulfides
Period *Obligations*
04/01/76-04/01/77 FY76: $40,000 TOTAL: $40,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Luo, H. L. LERC/Woollam, J. A. 13-Physics

NSG 5089 **University of California - San Diego** **1638**
Present day plate motions
Period *Obligations*
01/01/76-12/31/76 FY76: $27,000 TOTAL: $27,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jordan, T. H. GSFC/Mead, G. D. 32-Geological Sci
GSFC/Coates, R. J.

NSG 7001 **University of California - San Diego** **1639**
Investigation of auroral phenomena
Period *Obligations*
11/01/73-10/31/74 FY76: TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Doupnik, J. R. HQ-ST/Schmerling, E. R. 31-Atmos Sci

NSG 7027 **University of California - San Diego** **1640**
Orbital geochemical data analysis and synthesis
Period *Obligations*
03/01/74-01/31/77 FY76: $76,931 TOTAL: $221,026
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Arnold, J. R. HQ-SL/Williams, R. J. 32-Geological Sci
Peterson, L. E. HQ-SL/Flinn, E. A.

NSG 7100 **University of California - San Diego** **1641**
Infrared continuum observations of solar atmospheric structure
Period *Obligations*
11/14/74-06/30/76 FY76: TOTAL: $35,001
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hudson, H. S. HQ-ST/Timothy, A. F. 13-Physics

NSG 7102 **University of California - San Diego** **1642**
Research on processes controlling the formation and evolution of the small bodies in the solar system
Period *Obligations*
09/01/74-08/31/76 FY76: $50,000 TOTAL: $100,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Alfven, H. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NSG 7121 **University of California - San Diego** **1643**
Carbonaceous chondrites early irradiation and 244/pu fission records
Period *Obligations*
02/27/75-01/31/77 FY76: $32,099 TOTAL: $49,241
Prin. Invest. *NASA Tech. Officer* *CASE Category*
MacDougall, J. D. HQ-SL/French, B. M. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 7161 **University of California - San Diego** **1644**
Analysis and interpretation of solar X-ray data from OSO-7
Period *Obligations*
07/01/75-06/30/76 FY76: $47,000 TOTAL: $47,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Peterson, L. E. HQ-ST/Timothy, A. F. 13-Physics

W-14108 **University of California - San Diego** **1645**
Preparation of a book from research received under grant No NSG-7102
Period *Obligations*
02/06/76-08/31/76 FY76: $5,000 TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Alfven, H. HQ-SL/Dwornik, S. E. 32-Geological Sci

NCA 2-665301 **University of California - San Francisco** **1646**
Comparative anatomical survey of the habenular nuclear complex in mammals
Period *Obligations*
01/01/73-09/30/75 FY76: TOTAL: $6,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Degroot, J. ARC/Zill, L. P. 51-Biology

NCA 2-665401 University of California - San Francisco 1647
Glucocorticoid feedback sites in dog brains
Period *Obligations*
12/01/73-04/30/75 FY76: TOTAL: $2,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dallman, M. F. ARC/Zill, L. P. 51-Biology

NCA 2-665402 University of California - San Francisco 1648
Ecological factor involved in maintenance of skin flora
Period *Obligations*
06/01/74-06/01/75 FY76: TOTAL: $3,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Aly, R. ARC/Zill, L. P. 51-Biology

NCA 2-665502 University of California - San Francisco 1649
Regulation of adrenal growth and function
Period *Obligations*
05/01/75-04/30/76 FY76: TOTAL: $14,340
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dallman, M. F. ARC/Zill, L. P. 51-Biology

NCA 2-665601 University of California - San Francisco 1650
Ecological factor involved in maintenance of skin flora
Period *Obligations*
08/15/75-08/14/76 FY76: $3,000 TOTAL: $3,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Aly, R. ARC/Zill, L. P. 51-Biology

NCA 2-665602 University of California - San Francisco 1651
Circadian chages in adrenal sensitivity
Period *Obligations*
05/01/76-04/30/78 FY76: $15,000 TOTAL: $15,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dallman, M. F. ARC/Danellis, J. V. 51-Biology

NGL 05-025-014 University of California - San Francisco 1652
Structure and function of the purple membrane of halobacterium halobium
Period *Obligations*
05/17/72-04/30/76 FY76: TOTAL: $187,903
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Stoeckenius, W. ARC/Zill, L. P. 59-Life Sci, NEC
HQ-SL/Young, R. S.

NSG 7151 University of California - San Francisco 1653
Light energy conversion in halobacterium
Period *Obligations*
07/01/75-09/30/77 FY76: $50,000 TOTAL: $50,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Stoeckenius, W. HQ-SB/Young, R. S. 51-Biology
Bogomolni, R. A.
Zier, L. O.

NAS 9-14816 University of California - Santa Barbara 1654
Shuttle earth resources and oceanographic imaging radar (application and research roles)
Period *Obligations*
10/13/75-09/01/76 FY76: $30,485 TOTAL: $30,485
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Simonett, D. S. JSC/Nitschke, H. A. 33-Oceanography

NCA 2-680601 University of California - Santa Barbara 1655
Studies on ionic concentrations and tissue metabolism
Period *Obligations*
01/01/76-12/31/76 FY76: $3,000 TOTAL: $3,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rochelle, R. H. ARC/Zill, L. P. 51-Biology

NGR 05-010-035 University of California - Santa Barbara 1656
Pre-paleozoic biotas and environments
Period *Obligations*
08/01/68-07/31/75 FY76: TOTAL: $245,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cloud, P. E. HQ-SB/Young, R. S. 32-Geological Sci

NGR 05-010-062 University of California - Santa Barbara 1657
Planetary geophysics
Period *Obligations*
03/01/73-06/30/76 FY76: $18,626 TOTAL: $63,424
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Peale, S. J. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NGR 05-010-081 University of California - Santa Barbara 1658
Lunar sample analysis
Period *Obligations*
02/01/73-01/31/77 FY76: $61,300 TOTAL: $229,917
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tilton, G. R. JSC/Harris, J. W. 32-Geological Sci

NSG 5106 University of California - Santa Barbara 1659
Research of ocean color in the Santa Barbara channel
Period *Obligations*
03/01/76-11/30/76 FY76: $8,369 TOTAL: $8,369
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Estes, J. E. GSFC/Hovis, W. A. 33-Oceanography

NSG 7122 University of California - Santa Barbara 1660
Remanent magnetization of tektites
Period *Obligations*
10/01/74-01/31/76 FY76: TOTAL: $46,439
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fuller, M. D. HQ-SM/Bryson, R. P. 32-Geological Sci
HQ-SM/Roberson, F. I.

NSG 9020 **University of California - Santa Barbara** **1661**
Remanent magnetization of lunar samples
Period *Obligations*
10/31/74-01/31/79 FY76: $159,700 TOTAL: $269,237
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fuller, M. D. JSC/Harris, J. W. 19-Phys Sci, NEC

NGR 05-061-015 **University of California - Santa Cruz** **1662**
Infrared instrumentation
Period *Obligations*
07/06/72-01/31/77 FY76: $37,929 TOTAL: $116,270
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rank, D. M. HQ-SA/Boggess, N. W. 11-Astronomy
Osterbrock, D. E. HQ-SA/Roman, N. G.

NSG 9034 **University of California - Santa Cruz** **1663**
Petrologic and stratigraphic studies of lunar drill core and drive tubes
Period *Obligations*
09/01/75-08/31/76 FY76: $63,096 TOTAL: $63,096
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Papike, J. J. JSC/Harris, J. W. 39-Env Sci, NEC

NAS 2-7059 **University of San Francisco** **1664**
Apollo radiation dosimetry
Period *Obligations*
06/14/72-06/30/77 FY76: $65,487 TOTAL: $224,418
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Benton, E. V. ARC/Taketa, S. T. 13-Physics
ARC/Tremor, J. W.

NAS 8-26758 **University of San Francisco** **1665**
Study for heavy particle, passive, personnel dosimetry using etched particles
Period *Obligations*
01/21/71-06/30/77 FY76: TOTAL: $88,504
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Benton, E. V. MSFC/Parnell, T. A. 13-Physics
MSFC/Eby, P. B.

NAS 9-12466 **University of San Francisco** **1666**
Dosimetry materials
Period *Obligations*
02/02/72-12/31/76 FY76: TOTAL: $190,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Benton, E. V. JSC/Bailey, J. V. 51-Biology

NAS 9-14396 **University of San Francisco** **1667**
ASTP experiment AR002
Period *Obligations*
10/16/74-10/16/76 FY76: TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Benton, E. V. JSC/Taylor, G. R. 51-Biology

NCA 2-670501 **University of San Francisco** **1668**
Influence of various diets on some biological parameters in animals
Period *Obligations*
08/01/74-07/31/75 FY76: TOTAL: $9,912
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Furst, A. ARC/Zill, L. P. 51-Biology

NCA 2-670503 **University of San Francisco** **1669**
Respiratory analysis
Period *Obligations*
09/01/74-11/30/75 FY76: TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Furst, A. ARC/Zill, L. P. 52-Clinical Med

NCA 2-670504 **University of San Francisco** **1670**
Toxic risk assessment of manganese combustion products
Period *Obligations*
04/01/75-09/30/75 FY76: TOTAL: $8,733
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Furst, A. ARC/Zill, L. P. 53-Other Medical
Harding-Barlow, I.

NSG 2039 **University of San Francisco** **1671**
Research on reactive toxicity of pyrolysis effluents
Period *Obligations*
08/01/74-04/30/77 FY76: $104,517 TOTAL: $163,395
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hilado, C. J. ARC/Kourtides, D. A. 12-Chemistry
Furst, A. ARC/Parker, J. A.

NSG 2063 **University of San Francisco** **1672**
Effects of heavy particle radiation of the mammalian brain and related tissues
Period *Obligations*
01/01/75-10/01/76 FY76: $120,700 TOTAL: $169,186
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Benton, E. V. ARC/Miquel, J. 51-Biology

NSG 2164 **University of San Francisco** **1673**
Advanced thermal protection system
Period *Obligations*
06/14/76-06/13/77 FY76: $17,325 TOTAL: $17,325
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hilado, C. J. ARC/Riccitiello, S. R. 13-Physics

NAS 8-27799 **University of Santa Clara** **1674**
Study of algebraic methods for analysis and design of attitude control systems
Period *Obligations*
06/30/71-05/31/75 FY76: TOTAL: $77,029
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Siljak, D. D. MSFC/Seltzer, S. M. 49-Engr, NEC
MSFC/Nurre, G. S.

CALIFORNIA (Continued)

NCA 2-685402 **University of Santa Clara** **1675**
Joint use of specialized resources (law)

Period	*Obligations*	
07/15/73-12/31/76	FY76: $39,227	TOTAL: $39,227
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Alexander, G.	ARC/Zill, L. P.	79-Soc Sci, NEC

NCA 2-685408 **University of Santa Clara** **1676**
Thermal history of the moon and the terrestrial planets

Period	*Obligations*	
09/01/74-08/31/75	FY76:	TOTAL: $6,997
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barker, W. A. Fricker, P. E.	ARC/Zill, L. P.	32-Geological Sci

NCA 2-685409 **University of Santa Clara** **1677**
New formulation of tensor analysis and its application to numerical solution of fluid mechanics

Period	*Obligations*	
07/01/74-06/30/75	FY76:	TOTAL: $14,998
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Markle, G. E.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-685501 **University of Santa Clara** **1678**
Research in biomedical instrumentation

Period	*Obligations*	
07/01/74-06/30/75	FY76:	TOTAL: $14,944
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pefley, R. K.	ARC/Zill, L. P.	59-Life Sci, NEC

NCA 2-685502 **University of Santa Clara** **1679**
Investigation of the cosmo chemistry of inorganic acids

Period	*Obligations*	
08/01/74-07/31/75	FY76:	TOTAL: $11,440
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sweeney, M. A.	ARC/Zill, L. P.	12-Chemistry

NCA 2-685505 **University of Santa Clara** **1680**
Nox suppression possibilities for gas turbine using methanol as a fuel

Period	*Obligations*	
08/15/74-06/30/76	FY76:	TOTAL: $14,898
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pefley, R. K.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-685507 **University of Santa Clara** **1681**
A two dimensional model of the upper ionosphere of Venus

Period	*Obligations*	
06/01/75-06/15/76	FY76:	TOTAL: $14,248
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCormick, P. T.	ARC/Zill, L. P.	31-Atmos Sci

NCA 2-685508 **University of Santa Clara** **1682**
Study of selected NASA-AMES procurement systems

Period	*Obligations*	
03/04/75-09/30/75	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bruno, A. V.	ARC/Zill, L. P.	75-Political Sci

NCA 2-685509 **University of Santa Clara** **1683**
Physiology of extremely halophilic bacteria

Period	*Obligations*	
06/01/75-05/31/76	FY76: $1,250	TOTAL: $9,170
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tomlinson, G. A.	ARC/Zill, L. P.	51-Biology

NCA 2-685510 **University of Santa Clara** **1684**
Legal implications of extraterrestrial civilizations

Period	*Obligations*	
05/01/75-05/01/76	FY76: $12,783	TOTAL: $18,783
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Alexander, G. J.	ARC/Zill, L. P.	75-Political Sci

NCA 2-685601 **University of Santa Clara** **1685**
Subsonic flow visualization using the helium bubble technique

Period	*Obligations*	
07/01/75-07/01/76	FY76: $9,727	TOTAL: $9,727
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Raggett, J.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-685603 **University of Santa Clara** **1686**
Fate of organic compounds in primitive environment

Period	*Obligations*	
08/01/75-09/15/76	FY76: $12,390	TOTAL: $12,390
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sweeney, M. A.	ARC/Zill, L. P.	51-Biology

NCA 2-685605 **University of Santa Clara** **1687**
Biothermofluid mechanics

Period	*Obligations*	
07/01/75-06/30/76	FY76: $14,950	TOTAL: $14,950
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pefley, R. K.	ARC/Zill, L. P.	59-Life Sci, NEC

NCA 2-685606 **University of Santa Clara** **1688**
Thermal history of the moon and terrestrial planets

Period	*Obligations*	
09/01/75-08/31/76	FY76: $7,000	TOTAL: $7,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barker, W. A. Fricker, P. E.	ARC/Zill, L. P.	32-Geological Sci

NCA 2-685610 **University of Santa Clara** **1689**
Two-dimensional model of the upper ionosphere of Venus

Period	*Obligations*	
06/16/76-06/15/77	FY76: $11,716	TOTAL: $11,716
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCormick, P. T.	ARC/Zill, L. P.	11-Astronomy

CALIFORNIA (Continued)

NCA 2-685614 **University of Santa Clara** **1690**
Terminal oxidation in extreme halophilic bacteria

Period	*Obligations*	
06/01/76-05/31/77	FY76: $12,090	TOTAL: $12,090
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tomlinson, G. A.	ARC/Hochstein, L. I.	31-Atmos Sci

NCA 2-685701 **University of Santa Clara** **1691**
Thermal history of the moon and terrestrial Casius

Period	*Obligations*	
09/01/76-08/31/77	FY76: $7,056	TOTAL: $7,056
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barker, W. A.	ARC/Reynolds, R. T.	32-Geological Sci

NGR 05-017-010 **University of Santa Clara** **1692**
Extension of Mitrovics method for the analysis and design of dynamic systems

Period	*Obligations*	
11/01/75-10/31/76	FY76: $24,990	TOTAL: $234,846
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Siljak, D. D.	ARC/Doolin, B. F. ARC/Meyer, G.	49-Engr, NEC

NGR 05-017-027 **University of Santa Clara** **1693**
Planetary geology-stellar evolution

Period	*Obligations*	
03/31/71-07/31/76	FY76: $114,474	TOTAL: $498,243
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Greeley, R. Aggarwal, H. Schultz, P. H.	ARC/Quaide, W. L. ARC/Farlow, N. F.	32-Geological Sci

NGR 05-017-031 **University of Santa Clara** **1694**
Evaluation of STOL navigation avionics

Period	*Obligations*	
05/10/72-09/15/76	FY76:	TOTAL: $140,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dunn, W. R.	ARC/Hruby, R. J.	41-Aero Engr

NGR 05-017-033 **University of Santa Clara** **1695**
Study of viscous flow fields

Period	*Obligations*	
09/05/72-12/31/76	FY76: $49,119	TOTAL: $202,012
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cheng, D. Y.	ARC/Buell, D. A. ARC/Muhlstein, L., Jr.	41-Aero Engr

NGR 05-017-037 **University of Santa Clara** **1696**
Mapping geology of Mars quadrangle MC-6

Period	*Obligations*	
01/01/73-08/31/76	FY76: $31,312	TOTAL: $80,082
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Greeley, R.	HQ-SL/Dwornik, S. E. HQ-SL/Wahmann, R.	32-Geological Sci

NSG 2036 **University of Santa Clara** **1697**
Management systems research study

Period	*Obligations*	
07/15/74-11/30/76	FY76: $40,000	TOTAL: $126,152
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bruno, A. V.	ARC/Walsh, L. J.	99-Multi-Discip

NSG 2075 **University of Santa Clara** **1698**
Properties of moon and its environment from lunar magnetometer measurements

Period	*Obligations*	
09/01/75-09/01/76	FY76: $5,448	TOTAL: $44,125
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Parkin, C. W.	ARC/Dyal, P.	13-Physics

NSG 2086 **University of Santa Clara** **1699**
Comparison of finite element & finite difference methods for fluid flow problems

Period	*Obligations*	
07/23/75-07/31/76	FY76: $27,000	TOTAL: $27,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vinokur, M.	ARC/Lomax, H.	13-Physics

NSG 2106 **University of Santa Clara** **1700**
Command generators for total automatic flight control research

Period	*Obligations*	
10/01/75-09/30/76	FY76: $26,706	TOTAL: $26,706
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weissenberger, S.	ARC/Meyer, G.	41-Aero Engr

NSG 2153 **University of Santa Clara** **1701**
Study of the requirements of the 1979 World Administrative Radio Conference with respect to the search for extraterrestrial intelligence

Period	*Obligations*	
05/01/76-08/31/76	FY76: $10,890	TOTAL: $10,890
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Scull, M. A.	ARC/Billingham, J. ARC/Wolfe, J. H.	99-Multi-Discip

NSG 7141 **University of Santa Clara** **1702**
Analysis of lunar mare emplacement

Period	*Obligations*	
05/01/75-02/28/77	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Greeley, R. Schultz, P. H.	HQ-SL/Williams, R. J.	32-Geological Sci

NAS 2-6558 **University of Southern California** **1703**
Pioneer F/G analysis of ultraviolet experiment

Period	*Obligations*	
09/01/71-06/30/76	FY76: $178,578	TOTAL: $730,205
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Judge, D. L.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 2-7969 **University of Southern California** **1704**
Pioneer F/G data analysis

Period	*Obligations*	
12/05/73-06/30/76	FY76: $90,832	TOTAL: $205,697
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Intriligator, D. S.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 3-17857 **University of Southern California** **1705**
Jet noise basic research program

Period	*Obligations*	
06/29/73-06/28/74	FY76:	TOTAL: $27,290
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Laufer, J.	LERC/Dorsch, R. G.	41-Aero Engr

NAS 5-21505 **University of Southern California** **1706**
Advanced data compression experiments

Period	*Obligations*	
06/04/70-06/30/76	FY76: $35,046	TOTAL: $329,926
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Davisson, L. D.	GSFC/Kutz, R. L.	45-Elec Engr

NAS 8-29847 **University of Southern California** **1707**
Study of analytics of crystal growth in space

Period	*Obligations*	
06/05/73-12/17/75	FY76:	TOTAL: $70,030
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilcox, W. R.	MSFC/Ruff, R. C. MSFC/Facemire, B. R.	13-Physics

NAS 9-6164 **University of Southern California** **1708**
Proton accelerator studies

Period	*Obligations*	
06/01/66-06/01/77	FY76:	TOTAL: $8,004
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	JSC/Unavailable	13-Physics

NASW 2771 **University of Southern California** **1709**
Operation of the western research applications center

Period	*Obligations*	
02/01/75-12/31/75	FY76: $398,263	TOTAL: $513,463
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-KT/Holley, H. L.	99-Multi-Discip

NCA 2-730501 **University of Southern California** **1710**
Application of transonic lifting-line method to oblique wings

Period	*Obligations*	
07/01/74-02/01/75	FY76:	TOTAL: $9,908
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cheng, H. K.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-730601 **University of Southern California** **1711**
Application of transonic lifting-line method to oblique wings

Period	*Obligations*	
08/01/75-09/30/76	FY76: $14,557	TOTAL: $14,557
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cheng, H. K.	ARC/Zill, L. P.	41-Aero Engr

NGL 05-018-118 **University of Southern California** **1712**
Advanced communications techniques

Period	*Obligations*	
10/09/69-07/31/78	FY76:	TOTAL: $130,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Andrews, H. C.	GSFC/Kutz, R. L.	45-Elec Engr

NGR 05-018-178 **University of Southern California** **1713**
Dynamics of rotating-stratified flows with applications to the Jovian atmosphere

Period	*Obligations*	
09/11/72-08/31/76	FY76: $38,121	TOTAL: $156,940
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Maxworthy, T.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGR 05-018-180 **University of Southern California** **1714**
Photon-molecule interaction studies of the atmospheric gases

Period	*Obligations*	
08/31/72-12/31/76	FY76: $52,540	TOTAL: $159,028
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Judge, D. L.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGR 05-018-181 **University of Southern California** **1715**
Analysis of Pioneer solar wind observations of the interplanetary medium

Period	*Obligations*	
10/25/72-09/30/76	FY76: $30,000	TOTAL: $185,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vasyliunas, V. M.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

NGR 05-018-185 **University of Southern California** **1716**
Study of the structure of magnetopause using simultaneous OGO-5 magnetic field light ion mass

Period	*Obligations*	
06/27/73-06/30/77	FY76:	TOTAL: $25,795
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Intriligator, D. S.	HQ-SA/Calahan, H. D.	13-Physics

NSG 1221 **University of Southern California** **1717**
Investigation of jet shear layer mechanisms and their phase relation to radiated sound

Period	*Obligations*	
08/05/75-08/04/76	FY76: $30,001	TOTAL: $30,001
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Laufer, J.	LARC/Seiner, J. M.	41-Aero Engr

CALIFORNIA (Continued)

NSG 3025 **University of Southern California** **1718**
Basic noise research program
Period *Obligations*
06/28/74-12/27/75 FY76: TOTAL: $32,758
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Laufer, J. LERC/Olsen, W. A. 41-Aero Engr

NSG 5108 **University of Southern California** **1719**
Rocket experiments to measure the solar intensity and profile
Period *Obligations*
04/01/76-09/30/76 FY76: $60,000 TOTAL: $60,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Judge, D. L. GSFC/Bissell, E. E., Jr. 13-Physics
Carlson, R. W. HQ-SL/Fellows, R. F.

COLORADO

NGL 06-001-015 **Colorado School of Mines** **1720**
Application of remote sensor data to geologic & economic analyses of the bonanza test site
Period *Obligations*
03/11/69-09/30/76 FY76: TOTAL: $732,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lee, K. HQ-ER/Morrison, J. R.
39-Env Sci, NEC

NAS 1-12106 **Colorado State University** **1721**
Development of data test sets & simulation models for long term zonal earth energy budget experiment
Period *Obligations*
02/06/73-06/30/76 FY76: $10,000 TOTAL: $99,732
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vonder Haar, T. H. LARC/Sweet, G. E. 31-Atmos Sci
LARC/Woerner, C. V.

NAS 2-6615 **Colorado State University** **1722**
Study plant tumor tissues on clinostats & in space environment
Period *Obligations*
09/10/71-12/10/76 FY76: $53,616 TOTAL: $163,895
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Baker, R. ARC/Tremor, J. W. 59-Life Sci, NEC
Kleinschuster, S. J. ARC/Johnson, R.

NAS 5-22372 **Colorado State University** **1723**
Solar energy microclimate study
Period *Obligations*
05/12/75-11/12/76 FY76: $32,000 TOTAL: $62,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vonder Haar, T. H. GSFC/Thekaekara, M. P. 41-Aero Engr
Ellis, J. S.

NAS 5-22959 **Colorado State University** **1724**
Earth radiation budget sensor support
Period *Obligations*
01/23/76-01/22/79 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vonder Haar, T. H. GSFC/Nelson, D. 39-Env Sci, NEC

NAS 8-28590 **Colorado State University** **1725**
Feasibility of remote evaporation and precipitation estimates
Period *Obligations*
05/18/72-06/30/74 FY76: TOTAL: $99,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sadeh, W. Z. MSFC/Turner, R. E. 39-Env Sci, NEC
Ruff, T. F.

NAS 8-29583 **Colorado State University** **1726**
Wind tunnel investigation of wakes downwind of buildings and natural obstacles
Period *Obligations*
05/23/73-04/30/76 FY76: TOTAL: $96,124
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cermak, J. E. MSFC/Cliff, W. C. 44-Civil Engr
Peterka, J. A. MSFC/Camp, D. W.

NAS 8-30250 **Colorado State University** **1727**
Application of electro-hydrodynamic phenomena to space processing
Period *Obligations*
02/01/74-02/28/75 FY76: TOTAL: $15,001
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jones, T. B. MSFC/Berge, L. H. 45-Elec Engr
Wilmsen, C. W. MSFC/Wuenscher, H. E.

NAS 8-31237 **Colorado State University** **1728**
Turbulance model statistical simulation
Period *Obligations*
02/14/75-03/05/76 FY76: TOTAL: $21,977
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Winn, C. B. MSFC/Cliff, W. C. 46-Mech Engr
Johnson, G. R. MSFC/Fichtl, G. H.

NAS 8-31347 **Colorado State University** **1729**
Assessment of geophysical flows for zero-gravity simulation
Period *Obligations*
05/01/75-09/30/76 FY76: $27,529 TOTAL: $52,529
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Winn, C. B. MSFC/Fichtl, G. H. 49-Engr, NEC
Thompson, E. G. MSFC/Camp, D. W.

NAS 8-31673 **Colorado State University** **1730**
Zero-gravity aerosol behavior
Period *Obligations*
09/08/75-11/07/76 FY76: $24,878 TOTAL: $24,878
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Edwards, H. W. MSFC/Fichtl, G. H. 46-Mech Engr
MSFC/Morgan, S. H.

COLORADO (Continued)

NAS 8-31688 **Colorado State University** 1731
Study of zero-gravity two-phase turbulence
Period *Obligations*
11/06/75-11/05/76 FY76: $30,800 TOTAL: $30,800
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sandhorn, V. A. MSFC/Fichtl, G. H. 44-Civil Engr
MSFC/Camp, D. W.

NAS 9-14467 **Colorado State University** 1732
Modeling of wheat signatures for signature extension
Period *Obligations*
11/15/74-11/14/76 FY76: $31,750 TOTAL: $64,700
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smith, J. A. JSC/Barnett, T. L. 39-Env Sci, NEC
JSC/Potter, A. E.

NAS 9-14765 **Colorado State University** 1733
Skylab results
Period *Obligations*
09/01/75-06/30/76 FY76: $18,500 TOTAL: $18,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Marlatt, W. E. JSC/Byrns, Z. H. 31-Atmos Sci

NCA 2-165502 **Colorado State University** 1734
Experimental turbulence modeling
Period *Obligations*
12/01/74-06/30/75 FY76: TOTAL: $9,733
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sandborn, V. A. ARC/Zill, L. P. 41-Aero Engr

NCA 2-165503 **Colorado State University** 1735
Theoretical investigations of frequency up-conversion of infrared laser radiation by diatomic molecules
Period *Obligations*
01/01/75-12/31/75 FY76: TOTAL: $5,256
Prin. Invest. *NASA Tech. Officer* *CASE Category*
She, C. Y. ARC/Zill, L. P. 13-Physics

NCA 2-165603 **Colorado State University** 1736
Theoretical investigations of frequency up-conversion
Period *Obligations*
01/01/76-06/30/76 FY76: $5,000 TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
She, C. Y. ARC/Zill, L. P. 45-Elec Engr

NCA 2-165604 **Colorado State University** 1737
Experimental turbulence modeling
Period *Obligations*
01/01/76-10/31/76 FY76: $14,992 TOTAL: $14,992
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sandborn, V. A. ARC/Zill, L. P. 13-Physics

NGR 06-002-075 **Colorado State University** 1738
Metabolic effects of artificial environment
Period *Obligations*
10/18/68-10/31/76 FY76: $30,000 TOTAL: $288,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jordan, J. P. ARC/Holton, E. M. 51-Biology
Schatte, C. L.

NGR 06-002-095 **Colorado State University** 1739
Combustion instability with partial length acoustic lines
Period *Obligations*
12/02/69-08/31/76 FY76: $34,523 TOTAL: $264,536
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mitchell, C. E. LERC/Priem, R. J. 42-Astro Engr

NGR 06-002-098 **Colorado State University** 1740
Atmospheric transport processes as evaluated from Nimbus III satellite data
Period *Obligations*
04/13/70-10/31/76 FY76: $41,069 TOTAL: $278,856
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Reiter, E. R. GSFC/Theon, J. S. 31-Atmos Sci
Vonder Haar, T. H.
Cox, S. K.

NGR 06-002-102 **Colorado State University** 1741
Studies of radiation measurements from polar and geosynchronous satellites
Period *Obligations*
09/23/70-10/31/76 FY76: $60,000 TOTAL: $341,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vonder Haar, T. H. GSFC/Curran, R. J. 31-Atmos Sci

NGR 06-002-112 **Colorado State University** 1742
An experimental investigation of hollow cathode discharge start-up and operation
Period *Obligations*
12/21/70-12/01/76 FY76: $63,53[illegible] TOTAL: $301,327
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wilbur, P. J. LERC/Kerslake, W. R. 46-Mech Engr

NGR 06-002-127 **Colorado State University** 1743
Investigation of electrohydrodynamic heat pipes
Period *Obligations*
04/29/71-10/31/76 FY76: $13,881 TOTAL: $69,944
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Loehrke, R. I. ARC/Debs, R. J. 46-Mech Engr
Jones, T. B. ARC/Kirkpatrick, J. P.

NGR 06-002-128 **Colorado State University** 1744
Effect of cosmic radiation
Period *Obligations*
08/31/72-08/31/76 FY76: $60,000 TOTAL: $264,300
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lett, J. T. JSC/Hoffman, R. A. 51-Biology

COLORADO (Continued)

NGR 06-002-147 **Colorado State University** **1745**
Theoretical investigations on plasma processes in the Kaufman thruster

Period	*Obligations*	
04/14/72-08/31/76	FY76: $27,350	TOTAL: $109,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilhelm, H. E.	LERC/Serafini, J. S.	42-Astro Engr

NGR 06-002-159 **Colorado State University** **1746**
Bulk properties of atomic triplet hydrogen & high pressure equation of state for solid hydrogen

Period	*Obligations*	
12/04/72-10/19/76	FY76: $35,095	TOTAL: $91,765
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Etters, R. D.	LERC/Brown, G. V.	13-Physics

NGR 06-002-191 **Colorado State University** **1747**
Impact studies on computer needs for a whole earth dynamical model

Period	*Obligations*	
05/01/74-09/30/76	FY76: $35,000	TOTAL: $50,607
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thompson, E. G. Winn, C. B.	GSFC/Carpenter, L. H. GSFC/Smith, D. E.	32-Geological Sci

NSG 1215 **Colorado State University** **1748**
Airborne measurements of the radio emissions spectrum and environmental variables of severe storm

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $26,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sinclair, P. C.	LARC/Costen, R. C. GSFC/Levine, D. M.	31-Atmos Sci

NSG 2009 **Colorado State University** **1749**
Research of ultrasonic methods for hemodynamic measurements

Period	*Obligations*	
02/01/74-07/31/76	FY76:	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sun, C. T. McLoed, F. D. Miller, C. W.	ARC/Rositano, S. A. ARC/McCutcheon, E. P.	45-Elec Engr

NSG 3011 **Colorado State University** **1750**
Experimental investigations of argon and xenon ion sources

Period	*Obligations*	
07/01/74-07/31/77	FY76: $100,490	TOTAL: $150,687
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kaufman, H. R.	LERC/Mirtich, M. J. LERC/Byers, D. C.	42-Astro Engr

NSG 3038 **Colorado State University** **1751**
Plasma interaction between ion thruster and solar array

Period	*Obligations*	
09/01/74-10/22/76	FY76: $20,470	TOTAL: $36,320
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kaufman, H. R. Wilbur, P. J.	LERC/Domitz, S.	19-Phys Sci, NEC

NSG 3060 **Colorado State University** **1752**
Experimental measurement of thermal energy charge-transfer cross-sections of interest in rare-gas metal-vapor lasers

Period	*Obligations*	
03/01/75-02/28/77	FY76: $26,841	TOTAL: $51,832
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Collins, G. J.	LERC/Chubb, D. L. LERC/Michels, C. J.	13-Physics

NSG 3086 **Colorado State University** **1753**
Industrial ion source technology

Period	*Obligations*	
11/15/75-11/15/76	FY76: $49,881	TOTAL: $49,881
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kaufman, H. R.	LERC/Theman, E. R. LERC/Terdan, F. F.	13-Physics

NSG 5011 **Colorado State University** **1754**
Satellite support to weather modification

Period	*Obligations*	
06/15/74-08/14/76	FY76: $30,000	TOTAL: $89,074
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vonder Haar, T. H. Grant, L. O.	GSFC/Adler, R. F.	31-Atmos Sci

NSG 5073 **Colorado State University** **1755**
Project NOWCAST (short term forecasting of weather)

Period	*Obligations*	
12/01/75-09/30/76	FY76: $49,665	TOTAL: $49,665
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Marlatt, W. E.	GSFC/Neil, E. A.	31-Atmos Sci

NSG 5105 **Colorado State University** **1756**
Aircraft measurements and analysis of severe storms

Period	*Obligations*	
03/01/76-10/31/76	FY76: $170,000	TOTAL: $170,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sinclair, P. C.	GSFC/Rados, R. M. GSFC/Shenk, W. E.	31-Atmos Sci

NSG 9037 **Colorado State University** **1757**
Characterization of lunar ferromagnetic phases by effective linewidth method

Period	*Obligations*	
11/01/75-01/31/77	FY76: $15,600	TOTAL: $15,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Patton, C. E.	JSC/Harris, J. W.	13-Physics

COLORADO (Continued)

NAS 2-8816 University of Colorado - Boulder 1758
Design and development of a Pioneer/Venus orbiting ultraviolet spectrometer

Period	Obligations	
04/01/75-08/31/78	FY76: $427,000	TOTAL: $525,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stewart, A. I.	ARC/Sinnott, D. B. ARC/Sperans, J.	19-Phys Sci, NEC

NAS 5-11405 University of Colorado - Boulder 1759
University of Colorado ultraviolet nitric oxide experiment for atmosphere Explorer

Period	Obligations	
03/17/71-10/06/77	FY76: $109,000	TOTAL: $833,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	GSFC/Findlay, J. A.	31-Atmos Sci

NAS 5-20914 University of Colorado - Boulder 1760
ERTS data follow-on investigation

Period	Obligations	
02/28/75-12/28/76	FY76:	TOTAL: $82,035
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ives, J. D.	GSFC/Broderick, J. C.	32-Geological Sci

NAS 5-20948 University of Colorado - Boulder 1761
ERTS follow-on investigation

Period	Obligations	
02/20/75-09/20/76	FY76:	TOTAL: $141,561
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Krebs, P.	GSFC/Szajna, E. F.	59-Life Sci, NEC

NAS 5-22409 University of Colorado - Boulder 1762
Reduction and analysis of data from the OSO-1 high resolution ultraviolet spectrometer experiment

Period	Obligations	
06/26/75-06/25/77	FY76: $807,126	TOTAL: $942,126
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bruner, E. C., Jr.	GSFC/Worrall, W.	31-Atmos Sci

NAS 5-22440 University of Colorado - Boulder 1763
Planetary atmospheric dynamics program

Period	Obligations	
06/20/75-07/20/76	FY76:	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hard, C. Dickinson, R.	GSFC/Pirraglia, J.	31-Atmos Sci

NAS 5-22833 University of Colorado - Boulder 1764
Theoretical calculations of spectral features in the expanding envelopes of early-type stars

Period	Obligations	
11/03/75-12/03/77	FY76: $21,780	TOTAL: $21,780
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Conti, P. S.	GSFC/Underhill, A. B.	11-Astronomy

NAS 5-22960 University of Colorado - Boulder 1765
Solar mesospheric Explorer definition study

Period	Obligations	
12/03/75-02/29/76	FY76: $31,540	TOTAL: $31,540
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	GSFC/Weinreb, M. R.	11-Astronomy

NAS 5-23274 University of Colorado - Boulder 1766
Development of models for physical properties of stellar chromospheres

Period	Obligations	
08/01/73-09/30/76	FY76: $18,237	TOTAL: $49,528
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Linsky, J. L.	GSFC/Underhill, A. B.	11-Astronomy

NAS 5-23346 University of Colorado - Boulder 1767
Atmosphere, magnetosphere and plasmas in space sounder study

Period	Obligations	
02/27/76-05/27/76	FY76: $9,770	TOTAL: $9,770
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Calvert, W.	GSFC/Benson, R. F.	31-Atmos Sci

NAS 5-23577 University of Colorado - Boulder 1768
Solar maximum mission ultra-violet spectrometer and polarimeter review and analysis

Period	Obligations	
06/16/76-10/31/76	FY76: $20,774	TOTAL: $20,774
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gause, K.	GSFC/Kalet, M. W. GSFC/Woodgate, B. E.	11-Astronomy

NAS 8-31378 University of Colorado - Boulder 1769
Study of the solar corona using radio observations and Skylab observations

Period	Obligations	
05/20/75-06/30/76	FY76:	TOTAL: $29,990
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dulk, G. A.	MSFC/Bass, B. G. MSFC/Haggard, M.	13-Physics

NAS 8-31619 University of Colorado - Boulder 1770
Coupled base motion response analysis of payload structure systems

Period	Obligations	
07/14/75-02/27/76	FY76: $9,958	TOTAL: $9,958
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Feng, C. C.	MSFC/Holland, W. B. MSFC/Bullock, T.	46-Mech Engr

NAS 8-31958 University of Colorado - Boulder 1771
Study of geophysical fluid dynamics with electro-hydrodynamics polarization forces

Period	Obligations	
03/26/76-12/26/76	FY76: $32,000	TOTAL: $32,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Toomre, J. Hart, J. F.	MSFC/Fichtl, G. H. MSFC/Camp, D. W.	39-Env Sci, NEC

COLORADO (Continued)

NASW 2913 **University of Colorado - Boulder** 1772
Counting imaging detector using microchannel plates

Period	*Obligations*	
04/21/76-10/20/76	FY76: $35,615	TOTAL: $35,615
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Laurence, G. M.	HQ-SA/Rosendhal, J. D. HQ-SA/Roman, N. G.	11-Astronomy

NGL 06-003-052 **University of Colorado - Boulder** 1773
Theoretical and experimental research program in physics of planetary atmospheres

Period	*Obligations*	
06/28/66-06/30/78	FY76: $348,334	TOTAL: $3,548,348
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 06-003-057 **University of Colorado - Boulder** 1774
Basic research in solar physics

Period	*Obligations*	
09/05/67-08/30/76	FY76: $114,030	TOTAL: $778,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cooper, J. Linsky, J. L.	HQ-ST/Timothy, A. F.	13-Physics

NGL 06-003-064 **University of Colorado - Boulder** 1775
Rocket research program in the ultraviolet airglow and aurora of planetary atmospheres

Period	*Obligations*	
11/30/67-08/31/77	FY76:	TOTAL: $1,289,122
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	HQ-SL/Fellows, R. F.	31-Atmos Sci

NGL 06-003-200 **University of Colorado - Boulder** 1776
Application of space technology to practical problems such as those currently facing the mountain sections of the State of Colorado

Period	*Obligations*	
07/11/72-04/30/79	FY76: $100,000	TOTAL: $525,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ives, J. D.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 06-003-069 **University of Colorado - Boulder** 1777
Solar physics research

Period	*Obligations*	
11/29/67-04/30/77	FY76: $134,037	TOTAL: $1,142,838
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 06-003-127 **University of Colorado - Boulder** 1778
Data reduction-coordinated experiments

Period	*Obligations*	
08/18/69-06/30/77	FY76:	TOTAL: $753,681
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	31-Atmos Sci

NGR 06-003-176 **University of Colorado - Boulder** 1779
Rocket research program in stellar ultraviolet astronomy

Period	*Obligations*	
12/29/71-01/31/77	FY76: $150,000	TOTAL: $286,255
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lillie, C. F.	GSFC/Bissell, E. E., Jr. HQ-SA/Rosendhal, J. D.	11-Astronomy

NGR 06-003-179 **University of Colorado - Boulder** 1780
OAO-II data analysis program

Period	*Obligations*	
06/07/71-03/31/78	FY76:	TOTAL: $41,100
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lillie, C. F.	HQ-SA/Roman, N. G.	11-Astronomy

NGR 06-003-181 **University of Colorado - Boulder** 1781
Lunar sample analysis

Period	*Obligations*	
06/24/71-01/31/77	FY76: $24,420	TOTAL: $133,170
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Larson, E. E.	JSC/Harris, J. W.	13-Physics

NGR 06-003-199 **University of Colorado - Boulder** 1782
Geologic analysis of Martian surface features from Mariner 9 photography as a basis for systematic geologic mapping of Mars

Period	*Obligations*	
05/24/72-10/31/76	FY76:	TOTAL: $32,842
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peterson, J. E.	HQ-SL/Dwornik, S. E. HQ-SL/Holt, H. E.	32-Geological Sci

NGR 06-003-208 **University of Colorado - Boulder** 1783
Energy transfer in isotropic turbulence

Period	*Obligations*	
09/05/72-08/31/76	FY76: $10,000	TOTAL: $66,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Uberoi, M. S.	LERC/Deissler, R. G.	41-Aero Engr

NGR 06-003-215 **University of Colorado - Boulder** 1784
Analysis of satellite data from the magnetosphere and comparison with ground-based data

Period	*Obligations*	
07/01/73-10/31/76	FY76:	TOTAL: $29,957
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Speiser, T. W.	HQ-SA/Mitchell, J. L.	13-Physics

NGR 06-003-216 **University of Colorado - Boulder** 1785
Physical properties of chromospheric active and quiet regions by the analysis of existing OSO-4 and OSO-6 EUV data

Period	*Obligations*	
11/01/73-10/31/75	FY76:	TOTAL: $24,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Linsky, J. L.	HQ-SA/Calahan, H. D. HQ-SA/Oertel, G. K.	11-Astronomy

NGR 06-003-219 **University of Colorado - Boulder** **1786**
High resolution spectrograph of large space telescope

Period	*Obligations*	
10/01/73-02/29/76	FY76: $5,273	TOTAL: $17,566
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lillie, C. F.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NGR 06-003-222 **University of Colorado - Boulder** **1787**
Zodiacal light rocket research program

Period	*Obligations*	
07/01/73-06/30/75	FY76:	TOTAL: $170,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lillie, C. F.	HQ-SA/Roman, N. G. HQ-SA/Logan, W.	11-Astronomy

NSG 1056 **University of Colorado - Boulder** **1788**
Theory of hypersonic flight

Period	*Obligations*	
06/01/74-08/31/76	FY76:	TOTAL: $45,440
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Culp, R. D. Busemann, A.	LARC/Rainey, R. W. LARC/Quiejo, M. J.	41-Aero Engr

NSG 1140 **University of Colorado - Boulder** **1789**
Computer automation for feedback system design

Period	*Obligations*	
01/01/75-06/30/76	FY76: $10,600	TOTAL: $29,035
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Horowitz, I.	LARC/Jones, R. L. LARC/Schy, A. A.	45-Elec Engr

NSG 1213 **University of Colorado - Boulder** **1790**
Design of noninteracting flight control systems in the presence of large parameter variations and disturbances

Period	*Obligations*	
07/01/75-09/30/76	FY76:	TOTAL: $19,986
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wang, S. H. Dorato, P.	LARC/Schy, A. A. LARC/Hamer, H. A.	45-Elec Engr

NSG 2055 **University of Colorado - Boulder** **1791**
Computer control of AIRO telescopes

Period	*Obligations*	
11/01/74-10/31/76	FY76:	TOTAL: $21,450
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Webb, W. Linsky, J. L.	ARC/Cameron, R. M. ARC/Gillespie, C. M., Jr.	11-Astronomy

NSG 2126 **University of Colorado - Boulder** **1792**
Overhead and theoretical variations of atmospheric ozone

Period	*Obligations*	
01/01/76-08/31/76	FY76: $14,506	TOTAL: $14,506
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
London, J.	ARC/Poppoff, I. G. ARC/Whitten, R. C.	31-Atmos Sci

NSG 2128 **University of Colorado - Boulder** **1793**
Self-synchronizing schlieren photography and interferometry for the visualization of unsteady transonic flows

Period	*Obligations*	
12/01/75-11/30/76	FY76: $17,768	TOTAL: $17,768
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kadlec, R. A.	ARC/Davis, S. S. ARC/Coe, C. F.	41-Aero Engr

NSG 5098 **University of Colorado - Boulder** **1794**
Copernicus observations of oe and oef stars

Period	*Obligations*	
03/01/76-02/28/77	FY76: $7,979	TOTAL: $7,979
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Conti, P. S.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 5103 **University of Colorado - Boulder** **1795**
Rocket research in the ultraviolet airglow and aurora of planetary atmospheres

Period	*Obligations*	
02/01/76-01/31/77	FY76: $150,000	TOTAL: $150,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	GSFC/Bissell, E. E., Jr.	19-Phys Sci, NEC
Thomas, R. J.	HQ-SL/Fellows, R. F.	

NSG 7128 **University of Colorado - Boulder** **1796**
Studies of X-ray ultraviolet and optical emission from galactic X-ray sources

Period	*Obligations*	
03/01/75-06/30/77	FY76: $30,000	TOTAL: $40,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCray, R.	HQ-SA/Sofia, S. HQ-SA/Opp, A. G.	11-Astronomy

NSG 7130 **University of Colorado - Boulder** **1797**
OSO-I guest investigation program

Period	*Obligations*	
04/01/75-09/30/76	FY76: $50,000	TOTAL: $80,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bruner, E. C., Jr.	HQ-ST/Timothy, A. F.	13-Physics

NSG 7165 **University of Colorado - Boulder** **1798**
Theoretical studies of the solar corona and chromosphere

Period	*Obligations*	
07/01/75-08/31/76	FY76: $35,000	TOTAL: $35,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barth, C. A.	HQ-ST/Timothy, A. F.	13-Physics

NSG 7166 **University of Colorado - Boulder** **1799**
Physical mechanisms linking solar activity and/or geomagnetic disturbance with the large scale atmospheric circulation

Period	*Obligations*	
07/01/75-06/30/77	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roberts, W. O.	HQ-ST/Timothy, A. F.	13-Physics

COLORADO (Continued)

NSG 7224 **University of Colorado - Boulder** **1800**
Observed and theoretical variations of atmospheric ozone

Period	Obligations	
05/01/76-01/31/77	FY76: $39,915	TOTAL: $39,915
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
London, J.	HQ-SU/King, J., Jr. HQ-SU/Reed, E. F.	31-Atmos Sci

NSG 7231 **University of Colorado - Boulder** **1801**
A rocket program to measure minor neutral species in the earth's atmosphere from 30 km to 110 km

Period	Obligations	
04/01/76-10/31/76	FY76: $100,000	TOTAL: $100,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thomas, R. J.	HQ-SU/King, J., Jr. HQ-SU/Reed, E. F.	31-Atmos Sci

NSG 9036 **University of Colorado - Boulder** **1802**
Correlation of strength with q and velocity in lunar rock under simulated conditions

Period	Obligations	
11/01/75-01/31/77	FY76: $92,767	TOTAL: $92,767
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spetzler, H. A.	JSC/Harris, J. W.	32-Geological Sci

NAS 2-8200 **University of Denver** **1803**
Detectability of atmospheric species

Period	Obligations	
04/01/74-12/31/77	FY76: $197,266	TOTAL: $290,996
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Murcray, D. G.	ARC/Munoz, R. M.	13-Physics

NAS 5-22981 **University of Denver** **1804**
Measurement of soft energetic X-rays

Period	Obligations	
02/18/76-12/31/76	FY76: $17,375	TOTAL: $17,375
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barcus, J. R.	GSFC/Goldberg, R.	19-Phys Sci, NEC

NAS 5-23190 **University of Denver** **1805**
GHz parametric amplifier

Period	Obligations	
03/16/73-07/31/76	FY76:	TOTAL: $16,972
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Edrich, J.	GSFC/Hobbs, R. W.	13-Physics

NASW 2607 **University of Denver** **1806**
The collection and analysis of information relating to technology transfer and application

Period	Obligations	
03/12/74-01/13/75	FY76:	TOTAL: $220,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-KT/Ault, L. A.	75-Political Sci

NASW 2766 **University of Denver** **1807**
Program for transfer research and impact studies

Period	Obligations	
02/01/75-01/31/76	FY76: $86,859	TOTAL: $311,859
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Freeman, J. E.	HQ-KT/Ault, L. A.	99-Multi-Discip

NASW 2892 **University of Denver** **1808**
Collection and analysis of information relating to technology transfer and application

Period	Obligations	
02/01/76-01/31/77	FY76: $350,000	TOTAL: $350,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, F. D.	HQ-KT/Ault, L. A. HQ-KT/Orrick, D. W.	99-Multi-Discip

NGR 06-004-058 **University of Denver** **1809**
Study of hydromagnetic disturbances in the geomagnetic field at satellite altitudes

Period	Obligations	
05/02/68-04/30/77	FY76: $10,000	TOTAL: $138,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Patel, V. L.	HQ-ST/Schmerling, E. R.	13-Physics

NGR 06-004-060 **University of Denver** **1810**
Study of physical processes which govern the dynamics of geomagnetically trapped radiation

Period	Obligations	
05/08/68-05/31/77	FY76: $47,000	TOTAL: $215,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roederer, J. G.	HQ-ST/Taylor, W. W. HQ-ST/Schmerling, E. R.	13-Physics

NGR 06-004-123 **University of Denver** **1811**
Study of geomagnetic storms

Period	Obligations	
10/10/73-04/30/75	FY76:	TOTAL: $19,867
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Patel, V. L.	HQ-SA/Calahan, H. D.	13-Physics

NGR 06-004-125 **University of Denver** **1812**
Nitrogen management in solid waste management systems in space cabin atmospheric environment

Period	Obligations	
01/22/73-03/31/77	FY76: $14,123	TOTAL: $70,478
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ross, L. W. Schmelling, W.	ARC/Quattrone, P. D.	12-Chemistry

NSG 5004 **University of Denver** **1813**
Research study of variable stars using data from OAO-2

Period	Obligations	
05/01/74-04/30/75	FY76:	TOTAL: $7,449
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lesh, J. R.	GSFC/Kupperian, J. E.	11-Astronomy

NASA'S UNIVERSITY PROGRAM

COLORADO (Continued)

NSG 5069 **University of Denver** **1814**

Cephei variable stars and line-profile variations in Cephei stars

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $11,517
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lesh, J. R.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 2048 **University of Southern Colorado** **1815**

Technology research for strapdown inertial experiments

Period	*Obligations*	
09/15/74-10/01/76	FY76: $33,994	TOTAL: $99,645
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jenkins, R.	ARC/Hruby, R. J.	41-Aero Engr

CONNECTICUT

NGR 07-010-002 **Fairfield University** **1816**

Investigation of energy deposition processes in the upper atmosphere, and the interaction between the mesosphere and the thermosphere

Period	*Obligations*	
04/24/68-09/30/76	FY76:	TOTAL: $49,435
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McElaney, J. H.	GSFC/Heath, D. F.	31-Atmos Sci

NAS 5-22539 **University of Connecticut** **1817**

Regional dissemination center operations support

Period	*Obligations*	
07/01/75-12/31/76	FY76: $387,148	TOTAL: $387,148
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilde, D. U.	GSFC/Friedman, D. S.	99-Multi-Discip

NASW 2516 **University of Connecticut** **1818**

Regional dissemination center operation

Period	*Obligations*	
06/28/73-06/30/75	FY76:	TOTAL: $424,947
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilde, D. U.	HQ-KT/Holley, H. L.	99-Multi-Discip

NSG 1082 **University of Connecticut** **1819**

Development of controlled speech stimuli for evaluating speech interference effects of time-varying and steady state aircraft noise

Period	*Obligations*	
07/19/74-09/30/76	FY76: $25,000	TOTAL: $49,775
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cooker, H. S. McEwen, W. J.	LARC/Mayes, W. H.	49-Engr, NEC

NSG 2155 **University of Connecticut** **1820**

Interactive input system and 3-d graphics output study

Period	*Obligations*	
05/01/76-11/30/76	FY76: $18,002	TOTAL: $18,002
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
White, P. R.	ARC/Gregory, T. J. ARC/Carmichael, R. L.	41-Aero Engr

NSG 5075 **University of Connecticut** **1821**

Modelling the terrestrial hydrology of the global atmosphere

Period	*Obligations*	
08/17/75-08/16/76	FY76: $42,118	TOTAL: $42,118
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bock, P.	GSFC/Halem, M.	31-Atmos Sci

W-14061 **University of Connecticut** **1822**

Earth Resources Space Applications to North Eastern Regional Problems - Symposium

Period	*Obligations*	
10/20/75-11/19/75	FY76: $1,575	TOTAL: $1,575
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baldwin, R. C., Jr. Tuyahov, A.	HQ-EK/Schweickart, R. L.	39-Env Sci, NEC

NAS 5-20841 **Yale University** **1823**

Large space telescope phase b study program

Period	*Obligations*	
10/18/74-09/30/76	FY76: $3,870	TOTAL: $16,637
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Van Altena, W. F.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NGL 07-004-005 **Yale University** **1824**

Low-power, low-speed data storage and processing equipment

Period	*Obligations*	
01/01/71-08/31/78	FY76: $52,000	TOTAL: $732,643
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barker, R. C.	GSFC/Schaefer, D. H.	45-Elec Engr

NGL 07-004-043 **Yale University** **1825**

Chemical reactions in the electron-volt region

Period	*Obligations*	
10/26/65-09/31/78	FY76: $44,000	TOTAL: $451,677
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cross, R. J., Jr.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGR 07-004-009 **Yale University** **1826**

Determination & analysis of properties & characteristics of extremely small free-living self-replicating cells

Period	*Obligations*	
11/01/61-10/31/76	FY76: $24,000	TOTAL: $316,708
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Morowitz, H. J.	HQ-SB/Young, R. S.	51-Biology

CONNECTICUT (Continued)

NGR 07-004-157 **Yale University** **1827**
Computative mineralogical composition of Martian surface

Period	Obligations	
07/10/72-05/31/75	FY76:	TOTAL: $55,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Skinner, B. J.	HQ-SL/Dwornik, S. E. HQ-SL/Holt, H. E.	32-Geological Sci

NGR 07-004-166 **Yale University** **1828**
Nonhomogeneous accumulation origin of pallasites and its bearing on models of lunar and planetary formation

Period	Obligations	
06/15/73-02/28/77	FY76:	TOTAL: $37,182
Prin. Invest.	NASA Tech. Officer	CASE Category
Turekian, K. K.	HQ-SL/Williams, R. J.	32-Geological Sci

DELAWARE

NGR 08-002-005 **Delaware State College** **1829**
Research on the photo detachment cross section and threshold energy of negative ions in carbon dioxide

Period	Obligations	
03/16/73-09/30/76	FY76:	TOTAL: $36,017
Prin. Invest.	NASA Tech. Officer	CASE Category
Helmy, E. M. Woo, S. B.	GSFC/Aiken, A. C.	13-Physics

NAS 1-12304 **University of Delaware** **1830**
Skylab earth resources experiment package application to ecological, geological and oceanographic investigation of Delaware Bay

Period	Obligations	
06/05/73-06/30/76	FY76: $6,041	TOTAL: $84,091
Prin. Invest.	NASA Tech. Officer	CASE Category
Klemas, V. Jordan, R. R. Kinsman, B.	LARC/Johnson, R. W.	39-Env Sci, NEC

NAS 5-20983 **University of Delaware** **1831**
ERTS data follow-on investigation

Period	Obligations	
03/05/75-01/05/77	FY76: $3,000	TOTAL: $51,690
Prin. Invest.	NASA Tech. Officer	CASE Category
Klemas, V.	GSFC/Crump, E. W.	33-Oceanography

NSG 1149 **University of Delaware** **1832**
Determination of spectral reflectance signatures of coastal pollutants

Period	Obligations	
02/10/75-01/09/77	FY76: $2,203	TOTAL: $32,493
Prin. Invest.	NASA Tech. Officer	CASE Category
Klemas, V. Philpot, W.	LARC/Collins, V. G. LARC/Wineman, A. R.	39-Env Sci, NEC

NSG 1304 **University of Delaware** **1833**
Damage repair technology in composite materials

Period	Obligations	
05/01/76-04/30/77	FY76: $31,834	TOTAL: $31,834
Prin. Invest.	NASA Tech. Officer	CASE Category
Pipes, R. B. Daugherty, R. L.	LARC/Deaton, J. W. LARC/Hoffman, E. L.	46-Mech Engr

DISTRICT OF COLUMBIA

NAS 1-12209 **The American University** **1834**
Analytical investigation of data from Skylab/Earth Resources Experiment Package (EREP) in wetlands areas

Period	Obligations	
04/06/73-07/15/75	FY76:	TOTAL: $54,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Anderson, R. R.	LARC/Johnson, R. W. LARC/Whitlock, C. H.	39-Env Sci, NEC

NAS 5-21970 **The American University** **1835**
Study of ERTS imagery of West African countries

Period	Obligations	
10/05/73-02/04/75	FY76:	TOTAL: $87,700
Prin. Invest.	NASA Tech. Officer	CASE Category
MacLeod, N. H.	GSFC/Schubert, J.	39-Env Sci, NEC

NGR 09-005-022 **Catholic University** **1836**
Genetic studies of hydrogen bacteria & their application to biological life support systems

Period	Obligations	
05/04/65-04/01/76	FY76:	TOTAL: $162,294
Prin. Invest.	NASA Tech. Officer	CASE Category
Decicco, B. T.	HQ-SB/Saunders, J. F. HQ-SB/Coburn, K. R.	51-Biology

NGR 09-005-063 **Catholic University** **1837**
Interaction of the solar wind with the moon

Period	Obligations	
04/15/69-05/31/77	FY76: $37,500	TOTAL: $179,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Whang, Y. C.	HQ-ST/Taylor, W. W. HQ-ST/Schmerling, E. R.	13-Physics

NGR 09-005-077 **Catholic University** **1838**
Detector development for the study of high energy cosmic rays

Period	Obligations	
09/01/71-02/29/76	FY76:	TOTAL: $179,273
Prin. Invest.	NASA Tech. Officer	CASE Category
Crannell, H.	GSFC/Fichtel, C. E.	12-Chemistry

NGR 09-005-099 **Catholic University** **1839**
Experimental study of the structure of turbulence with imtermediate range of Reynolds numbers

Period	*Obligations*	
09/19/72-06/30/76	FY76: $10,200	TOTAL: $25,840
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ling, S. C.	LERC/Deissler, R. G.	41-Aero Engr

NGR 09-005-103 **Catholic University** **1840**
Kinetics and mechanism of the reactions of O(3p) and H atoms and Ch3Cn and other nitriles

Period	*Obligations*	
07/01/73-09/30/76	FY76:	TOTAL: $34,867
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Timmons, R. B.	GSFC/Stief, L. J.	12-Chemistry

NSG 5066 **Catholic University** **1841**
Research of solar hard X-rays and gamma-rays

Period	*Obligations*	
05/01/75-04/30/77	FY76: $10,000	TOTAL: $24,825
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Werntz, C.	GSFC/Dennis, B. R.	13-Physics

NSG 5107 **Catholic Univers[illegible]** **1842**
Research of ion resonance spectra

Period	*Obligations*	
04/01/76-03/31/77	FY76: $9,936	TOTAL: $9,936
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Major, F. G.	GSFC/Reinhardt, V. S.	13-Physics

NSG 5111 **Catholic University** **1843**
Research of properties of material in the submillimeter wave region

Period	*Obligations*	
09/01/76-08/31/77	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lally, J. Meister, R.	GSFC/McAvoy, N. GSFC/McElroy, J. H.	13-Physics

NGR 09-053-002 **District of Columbia Teachers College** **1844**
Liquid surface sensing capability of polarized optical techniques

Period	*Obligations*	
08/01/73-07/[illegible]4	FY76:	TOTAL: $13,189
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Curtis, W. C.	WFC/Holland, A. C. WFC/Spinak, A. D.	19-Phys Sci, NEC

NGR 09-053-003 **District of Columbia Teachers College** **1845**
Investigation of problems associated with solid encapsulation of high voltage electronic assemblies

Period	*Obligations*	
04/15/74-04/14/77	FY76: $9,524	TOTAL: $51,883
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bever, R. S.	GSFC/Westrom, J. L. GSFC/Seidenberg, B.	39-Env Sci, NEC

NSG 6003 **District of Columbia Teachers College** **1846**
A polar nephelometer study of water surfaces

Period	*Obligations*	
07/15/75-07/14/76	FY76: $23,647	TOTAL: $23,647
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Curtis, W. C.	WFC/Holland, A. C.	19-Phys Sci, NEC

NGR 09-050-001 **Federal City College** **1847**
Study of detectors for extremely relativistic particles

Period	*Obligations*	
10/07/69-04/30/77	FY76: $2,359	TOTAL: $212,149
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Whiteside, H. Rogers, E. H., Jr.	GSFC/McDonald, F. B. GSFC/Ormes, J. F.	13-Physics

NGR 09-050-003 **Federal City College** **1848**
Fundamental and analytical investigations of mechanisms and phenomena related to spacecraft electrochemical devices

Period	*Obligations*	
10/07/69-06/30/76	FY76:	TOTAL: $147,476
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nottingham, W. C.	GSFC/Webster, W. H., Jr. GSFC/Ford, F. E.	11-Astronomy

NGR 09-050-010 **Federal City College** **1849**
Laboratory investigation of different interstellar bands based on the spectra of tetrabenzoporphin

Period	*Obligations*	
01/25/72-09/30/74	FY76:	TOTAL: $18,025
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McDowell, H.	HQ-P/Pohly, J. G.	11-Astronomy

NGR 09-050-013 **Federal City College** **1850**
Applications of medical information management systems

Period	*Obligations*	
08/01/72-07/16/74	FY76:	TOTAL: $25,165
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Friedman, C.	GSFC/Alterescu, S. GSFC/Friedman, D. S.	52-Clinical Med

NGR 09-050-019 **Federal City College** **1851**
Determination of heavy metals in sediments and benthic species in relation to nuclear power plant operation

Period	*Obligations*	
02/18/74-09/30/76	FY76:	TOTAL: $49,759
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Phelps, H. L.	GSFC/Nava, D. E.	39-Env Sci, NEC

NGR 09-050-020 **Federal City College** **1852**
Application of Alexeev's theorem to two-body perturbed problems

Period	*Obligations*	
03/01/74-07/31/76	FY76:	TOTAL: $23,056
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bakshi, J. S.	GSFC/Fuchs, A. J.	21-Mathematics

NASA'S UNIVERSITY PROGRAM
DISTRICT OF COLUMBIA (Continued)

NSG 5003 **Federal City College** **1853**

Characteristic functions and their applications in mathematical statistics

Period	*Obligations*	
08/01/74-08/01/75	FY76:	TOTAL: $20,855
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, E. S.	GSFC/Lancaster, E. R.	21-Mathematics

NSG 5019 **Gallaudet College** **1854**

Investigations of use of speech modulated white noise to differentiate hearers and feelers among listeners

Period	*Obligations*	
08/26/74-06/30/76	FY76:	TOTAL: $6,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tobin, H.	GSFC/Chen, W. T. GSFC/Friedman, D. S.	52-Clinical Med

NAS 1-14313 **George Washington University** **1855**

Second national symposium on Computerized Structural Analysis and Design

Period	*Obligations*	
02/20/76-10/31/76	FY76: $9,500	TOTAL: $9,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Toridis, T. G.	LARC/McComb, H. G., Jr.	49-Engr, NEC

NASW 2768 **George Washington University** **1856**

Operation of a scientific communication system for planetary quarantine

Period	*Obligations*	
01/01/75-12/31/75	FY76:	TOTAL: $48,538
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-SB/Hall, L. B.	59-Life Sci, NEC

NASW 2890 **George Washington University** **1857**

Operation of a scientific communication system for planetary quarantine

Period	*Obligations*	
01/01/76-12/31/76	FY76: $58,633	TOTAL: $58,633
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-SB/Hall, L. B.	75-Political Sci

NGL 09-010-053 **George Washington University** **1858**

Research in space-related areas in engineering and applied science

Period	*Obligations*	
12/18/68-08/31/78	FY76: $200,000	TOTAL: $1,250,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Anderson, A. F.	49-Engr, NEC

NGR 09-010-064 **George Washington University** **1859**

Research in acoustics at the NASA Langley Research Center

Period	*Obligations*	
01/29/70-01/31/77	FY76: $173,500	TOTAL: $1,183,018
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Margolis, K.	41-Aero Engr

NGR 09-010-074 **George Washington University** **1860**

Programs of research in flight sciences

Period	*Obligations*	
04/01/71-05/31/77	FY76: $101,000	TOTAL: $841,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Mulac, R. W.	41-Aero Engr

NGR 09-010-078 **George Washington University** **1861**

Research programs in structures and dynamics

Period	*Obligations*	
01/06/72-01/31/77	FY76: $204,200	TOTAL: $751,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Anderson, R. A. LARC/Hammond, C. E.	41-Aero Engr

NGR 09-010-085 **George Washington University** **1862**

Aircraft noise reduction research

Period	*Obligations*	
02/21/73-08/31/76	FY76: $108,650	TOTAL: $322,050
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Margolis, K.	41-Aero Engr

NGR 09-010-096 **George Washington University** **1863**

Research program in microwave remote sensing

Period	*Obligations*	
09/01/73-08/31/76	FY76: $32,482	TOTAL: $85,482
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Swift, C. T.	45-Elec Engr

NSG 1026 **George Washington University** **1864**

A graduate research program in environmental modeling

Period	*Obligations*	
03/21/74-09/30/76	FY76: $167,200	TOTAL: $292,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Callis, L. B., Jr. LARC/Young, G. R.	31-Atmos Sci

NSG 1110 **George Washington University** **1865**

Antenna and wave propagation applied to avionics systems

Period	*Obligations*	
10/01/74-12/31/76	FY76: $8,900	TOTAL: $40,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H.	LARC/Bailey, M. C. LARC/Croswell, W. F.	45-Elec Engr

NSG 1155 **George Washington University** **1866**

Studies related to materials flight sciences

Period	*Obligations*	
03/03/75-09/02/77	FY76: $90,000	TOTAL: $210,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liebowitz, H. Esterling, D. M.	LARC/Swann, R. T. LARC/Stein, B. A.	47-Materials Engr

NASA'S UNIVERSITY PROGRAM
DISTRICT OF COLUMBIA (Continued)

NSG 1161 **George Washington University** **1867**
Research in flight dynamics
Period *Obligations*
06/01/75-10/31/76 FY76: TOTAL: $35,470
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Liebowitz, H. LARC/Suit, W. T. 41-Aero Engr
LARC/Queijo, M. J.

NSG 1170 **George Washington University** **1868**
Program verification for commercial aircraft applications
Period *Obligations*
05/01/75-02/28/77 FY76: $20,000 TOTAL: $29,994
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Maurer, W. D. LARC/Straeter, T. A. 99-Multi-Discip

NSG 1216 **George Washington University** **1869**
Research in atmospheric science
Period *Obligations*
09/01/75-08/31/76 FY76: TOTAL: $27,014
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Liebowitz, H. LARC/Callis, L. B., Jr. 31-Atmos Sci
LARC/Young, G. R.

NSG 1228 **George Washington University** **1870**
Fracture of advanced composite materials
Period *Obligations*
09/01/75-08/31/76 FY76: $30,968 TOTAL: $30,968
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Liebowitz, H. LARC/Poe, C. C., Jr. 47-Materials Engr

NSG 1246 **George Washington University** **1871**
High Reynolds number transonic research in support of projected advanced experimental facilities
Period *Obligations*
09/01/75-08/31/76 FY76: $40,400 TOTAL: $40,400
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Liebowitz, H. LARC/McKinney, L. W. 41-Aero Engr
LARC/Howell, R. R.

NSG 1251 **George Washington University** **1872**
Severe storms research
Period *Obligations*
10/01/75-09/30/76 FY76: $34,976 TOTAL: $34,976
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Liebowitz, H. LARC/Costen, R. C. 31-Atmos Sci
Kaplan, M. L. LARC/Callis, L. B., Jr.

NSG 1289 **George Washington University** **1873**
Research program in improved fracture toughness determination for aircraft structural materials
Period *Obligations*
03/01/76-02/28/77 FY76: $39,500 TOTAL: $39,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Liebowitz, H. LARC/Elber, W. 47-Materials Engr
Eftis, J. LARC/Newman, J. C., Jr.

NSG 7145 **George Washington University** **1874**
Analysis of the space shuttle decision
Period *Obligations*
06/11/75-08/31/77 FY76: TOTAL: $33,037
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Logsdon, J. M. HQ-AD/Wright, M. D. 75-Political Sci

NSR 09-010-027 **George Washington University** **1875**
Scientific communication research in space biology
Period *Obligations*
05/24/66-09/30/75 FY76: $3,532 TOTAL: $2,344,577
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Schiff, H. I. LERC/Baker, C. E. 59-Life Sci, NEC
Ridley, B. HQ-SB/Brownstein, H. S.

NAS 8-30252 **Howard University** **1876**
Diffusion in liquid metal systems
Period *Obligations*
12/01/73-01/10/75 FY76: TOTAL: $10,800
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ukanwa, A. O. MSFC/Schafer, C. F. 13-Physics
MSFC/Bannister, T. C.

NASW 2906 **Howard University** **1877**
A three day symposium on aeronautics and space
Period *Obligations*
02/24/76-05/30/76 FY76: $19,480 TOTAL: $19,480
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Unavailable HQ-U/Monroe, R. 99-Multi-Discip

NCA 5-14 **Howard University** **1878**
Cooperative program in engineering
Period *Obligations*
06/01/76-06/30/77 FY76: $23,500 TOTAL: $23,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cot, E. L. GSFC/Mundy, J. R. 49-Engr, NEC

NGL 09-011-017 **Howard University** **1879**
Study of neurohumoral control systems operations in adjustment of ventricular performance
Period *Obligations*
04/25/68-01/15/79 FY76: $80,000 TOTAL: $832,398
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hawthorne, E. W. ARC/Sandler, H. 53-Other Medical

NGL 09-011-046 **Howard University** **1880**
Investigation of radiation detectors for environmental trace elements
Period *Obligations*
04/25/72-07/31/77 FY76: TOTAL: $33,131
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ferguson, G. A. HQ-P/Pohly, J. G. 39-Env Sci, NEC

NGR 09-011-053 Howard University 1881
Three-dimensional motion and stability of rotating space station-cable-counter-weight configuration
Period *Obligations*
05/09/73-05/15/75 FY76: TOTAL: $37,814
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bainum, P. M. HQ-MT/Huff, V. N. 46-Mech Engr

NGR 09-011-055 Howard University 1882
Investigations of noninvasive ECG systems
Period *Obligations*
09/01/74-03/31/76 FY76: TOTAL: $18,972
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fischmann, E. J. GSFC/Chen, W. T. 52-Clinical Med
Miller, W. GSFC/Friedman, D. S.
Yagelovich, J.

NGR 09-011-057 Howard University 1883
Electron spectroscopy
Period *Obligations*
04/01/74-07/31/77 FY76: $900 TOTAL: $25,200
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tsang, T. GSFC/Yin, L. I. 13-Physics

NGT 09-011-051 Howard University 1884
Training of undergraduate students in sciences and engineering
Period *Obligations*
01/01/73-03/31/75 FY76: TOTAL: $72,508
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Deloatch, E. M. HQ-P/Pohly, J. G. 59-Life Sci, NEC

NGT 09-011-058 Howard University 1885
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/74-05/31/77 FY76: $14,000 TOTAL: $42,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cox, E. L. HQ-P/Pohly, J. G. 49-Engr, NEC
HQ-U/Jenkins, H. G.

NSG 1130 Howard University 1886
Weight minimization of a large area expandable space structure with respect to a minimum allowable natural frequency
Period *Obligations*
12/09/74-01/15/77 FY76: $34,150 TOTAL: $60,150
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Broome, T. H. LARC/Kruszewski, E. T. 44-Civil Engr

NSG 1181 Howard University 1887
Dynamics of spin stabilized spacecraft with movable appendages
Period *Obligations*
05/16/75-05/15/77 FY76: $34,630 TOTAL: $62,146
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bainum, P. M. LARC/Martz, C. W. 41-Aero Engr

NSG 5016 Howard University 1888
Investigations of MIMS applications
Period *Obligations*
09/01/74-09/30/76 FY76: $19,000 TOTAL: $38,540
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Shepard, J. GSFC/Alterescu, S. 53-Other Medical

NSG 5021 Howard University 1889
Oh and Nh emission studies of comet Kohoutek
Period *Obligations*
11/01/74-08/31/75 FY76: TOTAL: $7,688
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kumar, C. K. GSFC/Maran, S. P. 11-Astronomy

NSG 5071 Howard University 1890
Laser induced photoluminiscence studies of primary photochemical production processes of cometary radicals
Period *Obligations*
08/01/75-10/15/76 FY76: $55,000 TOTAL: $55,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jackson, W. M. GSFC/Stief, L. J. 12-Chemistry

NSG 5081 Howard University 1891
Infant weighing scheme
Period *Obligations*
10/13/75-10/12/76 FY76: $38,940 TOTAL: $38,940
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Deloatch, E. M. GSFC/Alterescu, S. 53-Other Medical
GSFC/Friedman, D. S.

NSG 5104 Howard University 1892
Determination of bacteria concentration by luminescence assay
Period *Obligations*
03/15/76-11/15/76 FY76: $9,981 TOTAL: $9,981
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Okrend, H. H. GSFC/Picciolo, G. L. 51-Biology
GSFC/Chappelle, E. W.

NSG 9010 Howard University 1893
Theoretical evaluation of linear Kalman filtering techniques for advanced mission state determination
Period *Obligations*
07/01/74-08/31/76 FY76: $15,000 TOTAL: $30,960
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Choudhury, A. K. JSC/Savely, R. T. 45-Elec Engr

NAS 5-22383 Washington Technical Institute 1894
Electronics fabrication studies
Period *Obligations*
06/03/75-06/30/76 FY76: $8,500 TOTAL: $28,099
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brach, P. L. GSFC/Ehrmann, C. H. 45-Elec Engr
Lumpkin, I.

NASA'S UNIVERSITY PROGRAM
DISTRICT OF COLUMBIA (Continued)

NCA 5-40 **Washington Technical Institute** **1895**

Study the evolution of solar active regions

Period	*Obligations*	
06/16/75-09/16/75	FY76:	TOTAL: $4,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kasten, A.	GSFC/Hobbs, R. W.	11-Astronomy

NGR 09-059-002 **Washington Technical Institute** **1896**

Electronics fabrication studies

Period	*Obligations*	
01/15/74-12/31/75	FY76:	TOTAL: $42,240
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brach, P.	GSFC/Ehrmann, C. H.	45-Elec Engr

FLORIDA

NGR 10-022-001 **Bethune - Cookman College** **1897**

A study of lagoonal and estuarine processes through the beneficial disposal of solid waste

Period	*Obligations*	
07/26/72-10/31/76	FY76: $27,658	TOTAL: $98,980
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Poonai, P. Marlins, J. C.	KSC/Hammond, T. M.	39-Env Sci, NEC

NGR 10-010-002 **Florida A&M University** **1898**

Development of methods for analysis of hydrocarbons in partially purified waste water

Period	*Obligations*	
60/17/30-01/31/76	FY76:	TOTAL: $41,781
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cottrell, P. T.	KSC/Schehl, T. A.	39-Env Sci, NEC

NSG 805 **Florida A&M University** **1899**

Studies on the morphological, biochemical, and growth characteristics of salmonella nad shigella in waterways surrounding Cape Kennedy

Period	*Obligations*	
04/01/75-04/01/76	FY76:	TOTAL: $25,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harrell, B. E.	KSC/Malone, J. E.	59-Life Sci, NEC

NSG 901 **Florida A&M University** **1900**

Electron-impact excitation of molecular oxygen

Period	*Obligations*	
09/12/74-09/11/76	FY76: $25,913	TOTAL: $49,131
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jones, H. Weatherford, C. A.	JPL/Trajmar, S.	13-Physics

NSG 2029 **Florida A&M University** **1901**

Study of influence of amines on diurnal toxicity of stimulants & depressants

Period	*Obligations*	
07/01/74-08/31/76	FY76: $34,340	TOTAL: $73,145
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Walker, C. A.	ARC/Winget, C. M. ARC/Danellis, J. V.	59-Life Sci, NEC

NSG 2103 **Florida A&M University** **1902**

Microbial transformation of nucleosides

Period	*Obligations*	
10/01/75-09/30/76	FY76: $20,034	TOTAL: $20,034
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lamba, S. S.	ARC/Winget, C. M.	59-Life Sci, NEC

NAS10-8399 **Florida Institute of Technology** **1903**

Hypergolic propellants liquid and vapor disposal study

Period	*Obligations*	
08/08/73-01/11/77	FY76: $138,916	TOTAL: $283,690
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bowman, T. E. Newman, R. W.	KSC/Franks, H. H. KSC/Dobson, J. L.	43-Chem Engr

NGR 10-015-008 **Florida Institute of Technology** **1904**

Study of lagoonal and estuarine ecological processes

Period	*Obligations*	
09/03/74-03/31/76	FY76:	TOTAL: $233,224
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weber, H. P.	KSC/Lee, W. H.	39-Env Sci, NEC

NSG 5038 **Florida Institute of Technology** **1905**

Correlation of the earth's rotation rate and the secular change of the geomagnetic fields

Period	*Obligations*	
12/01/74-08/31/75	FY76:	TOTAL: $6,966
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jin, R. S.	GSFC/Langel, R. A.	13-Physics

NAS 1-9693 **Florida State University** **1906**

Participation in the science planning for the Viking 1975 missions in the area of meteorology

Period	*Obligations*	
03/23/70-03/31/77	FY76: $102,909	TOTAL: $322,910
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hess, S. K.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	32-Geological Sci

NAS 5-22578 **Florida State University** **1907**

Geobotanical interpretation of the geology and phosphate occurrences of North-Central Florida

Period	*Obligations*	
09/09/75-07/09/76	FY76: $4,886	TOTAL: $4,886
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Buie, B. F. Devore, G. W.	GSFC/Schnetzler, C. C.	32-Geological Sci

NASA'S UNIVERSITY PROGRAM
FLORIDA (Continued)

NGR 10-004-041 **Florida State University** 1908
Microbial activity in non-aqueous systems
Period *Obligations*
07/17/72-09/14/76 FY76: TOTAL: $188,465
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Larock, P. A. HQ-SB/Young, R. S. 51-Biology

NGR 10-004-056 **Florida State University** 1909
Infrared absorption from 0.8 to 1.5 microns of Nh3, Ch4 and CO2
Period *Obligations*
03/25/69-01/31/77 FY76: $24,600 TOTAL: $235,565
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hunt, R. H. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NSG 1021 **Florida State University** 1910
Large scale disturbances mechanism of jet noise generation
Period *Obligations*
06/01/74-06/30/76 FY76: TOTAL: $29,023
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tam, C. K. LARC/Hardin, J. C. 13-Physics
Hunter, C.

NAS10-8934 **Florida Technological University** 1911
Vascular aquatic plant research
Period *Obligations*
01/06/76-01/05/77 FY76: $6,614 TOTAL: $6,614
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Osborne, J. KSC/Burton, R. 39-Env Sci, NEC

NAS10-8986 **Florida Technological University** 1912
Base-line studies for environmentally monitoring the effects of space transportation systems
Period *Obligations*
05/28/76-05/27/77 FY76: $319,578 TOTAL: $319,578
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vickers, D. H. KSC/Buchanan, P. 39-Env Sci, NEC
Stout, I. J. KSC/Lee, W. H.
Olsen, M. A.

NGR 10-019-004 **Florida Technological University** 1913
Study of a diverse coastal ecosystem on the Atlantic coast of Florida
Period *Obligations*
04/11/72-04/23/76 FY76: TOTAL: $226,008
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sweet, H. C. KSC/Lee, W. H. 39-Env Sci, NEC
Ehrhart, L. M.
Snelson, F. F.

NGR 10-019-009 **Florida Technological University** 1914
Solid rocket exhaust effects on ecology and environment
Period *Obligations*
02/03/73-03/31/76 FY76: TOTAL: $159,378
Prin. Invest. *NASA Tech. Officer* *CASE Category*
St John, R. KSC/Lee, W. H. 39-Env Sci, NEC
Mickus, J.

NSG 5110 **Florida Technological University** 1915
Analysis of radio observations of cometary nebulae
Period *Obligations*
05/01/76-04/30/77 FY76: $7,700 TOTAL: $7,700
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Katzin, J. C. GSFC/Hobbs, R. W. 11-Astronomy
GSFC/Maran, S. P.

NAS 5-22908 **University of Florida** 1916
Nimbus-G experiment team for solar back-scattered ultraviolet and total ozone mapping system
Period *Obligations*
12/19/75-12/18/78 FY76: $20,000 TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Green, A. E. GSFC/Heath, D. F. 49-Engr, NEC

NAS 8-20247 **University of Florida** 1917
Study of age deterioration of gasket materials installed in simulated launch vehicle hardware
Period *Obligations*
06/28/65-06/30/79 FY76: TOTAL: $29,[illegible]
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Patterson, E. P. MSFC/Schell, J. T. 12-Chemistry
MSFC/Wood, T. E.

NAS10-8774 **University of Florida** 1918
Models to predict earth-air interface temperature regimes during freeze conditions
Period *Obligations*
12/06/74-12/05/75 FY76: TOTAL: $79,991
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bartholic, J. F. KSC/Toft, P. D. 39-Env Sci, NEC
Sutherland, R. A.
Hannah, H. E.

NAS10-8920 **University of Florida** 1919
Models to predict earth-air interface temperature regimes during freeze conditions
Period *Obligations*
12/02/75-12/01/76 FY76: $74,998 TOTAL: $74,998
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bartholic, J. F. KSC/Toft, P. D. 39-Env Sci, NEC

NCA 2-240501 **University of Florida** 1920
Simulation of the eolian modification of Martian craters
Period *Obligations*
12/02/74-06/15/75 FY76: TOTAL: $14,929
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clarkson, M. H. ARC/Zill, L. P. 41-Aero Engr

NGL 10-005-008 **University of Florida** 1921
Theoretical atmospheric physics
Period *Obligations*
06/04/64-04/30/78 FY76: $50,000 TOTAL: $558,460
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Green, A. S. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NASA'S UNIVERSITY PROGRAM

FLORIDA (Continued)

NGL 10-005-022 **University of Florida** **1922**
Gas solubilities and transport properties in fuel cell electrolytes
Period *Obligations*
02/14/66-12/31/76 FY76: TOTAL: $278,211
Prin Invest *NASA Tech Officer* *CASE Category*
Walker, R. D., Jr. LERC/Post, R. E. 43-Chem Engr

NGL [redacted] **University of Florida** **1923**
Experimental investigation of a uranium plasma
Period *Obligations*
01/30/68-12/31/78 FY76: $94,000 TOTAL: $773,795
Prin Invest *NASA Tech Officer* *CASE Category*
Schneider, R. T. HQ-RR/Thom, K. 13-Physics
Carroll, E. E. LARC/Hohl, F.
Ohanian, M. J.

NGL 10-005-127 **University of Florida** **1924**
Experimental investigation of round turbulent jet exhausting into a subsonic cross flow
Period *Obligations*
12/03/69-10/31/78 FY76: $27,597 TOTAL: $200,282
Prin Invest *NASA Tech Officer* *CASE Category*
Fearn, R. L. LARC/Margason, R. J. 41-Aero Engr
LARC/Weston, R. P.

NGR 10-005-057 **University of Florida** **1925**
Studies of electroencephalographic patterns
Period *Obligations*
05/23/68-03/31/77 FY76: $85,000 TOTAL: $504,470
Prin Invest *NASA Tech Officer* *CASE Category*
Webb, W. B. ARC/Anliker, J. E. 69-Psych, NEC
Agnew, H. W., Jr. ARC/Huff, E. M.

NGR 10-005-169 **University of Florida** **1926**
Lightning studies
Period *Obligations*
01/15/73-04/15/77 FY76: $10,000 TOTAL: $38,997
Prin Invest *NASA Tech Officer* *CASE Category*
Uman, M. A. KSC/Toft, P. D. 31-Atmos Sci
Chenette, E. R.

NGR 10-005-182 **University of Florida** **1927**
Fundamental studies on electrolyte matrix processing
Period *Obligations*
06/26/73-06/30/77 FY76: $35,351 TOTAL: $102,667
Prin Invest *NASA Tech Officer* *CASE Category*
Walker, R. D., Jr. LERC/Sheibley, D. W. 43-Chem Engr

NSG 2120 **University of Florida** **1928**
Investigation on the flow about general fuselage shapes at high angles of attack
Period *Obligations*
09/15/75-09/14/78 FY76: $62,234 TOTAL: $62,234
Prin Invest *NASA Tech Officer* *CASE Category*
Clarkson, M. H. ARC/Malcolm, G. N. 41-Aero Engr
ARC/Chapman, G. T.

NSG 3018 **University of Florida** **1929**
Silicon PN junction solar cells
Period *Obligations*
06/24/74-07/23/77 FY76: $60,000 TOTAL: $116,983
Prin Invest *NASA Tech Officer* *CASE Category*
Lindholm, F. A. LERC/Godlewski, M. P. 45-Elec Engr
LERC/Brandhorst, H. W., Jr.

NSG 5061 **University of Florida** **1930**
Electromagnetic wave energy conversion research
Period *Obligations*
04/01/75-11/30/75 FY76: TOTAL: $19,440
Prin Invest *NASA Tech Officer* *CASE Category*
Bailey, R. L. GSFC/Peake, H. J. 45-Elec Engr
GSFC/Lyons, J. C.

NSG 5116 **University of Florida** **1931**
Investigation of the doubling of the MG-II 2759 resonance line
Period *Obligations*
06/01/76-05/31/77 FY76: $3,770 TOTAL: $3,770
Prin Invest *NASA Tech Officer* *CASE Category*
Chen, K. W. GSFC/Kupperian, J. E. 11-Astronomy

NSG 7143 **University of Florida** **1932**
Analysis of Jupiter data from radio astronomy experiment spacecraft
Period *Obligations*
06/01/75-09/30/76 FY76: $21,079 TOTAL: $21,079
Prin Invest *NASA Tech Officer* *CASE Category*
Carr, T. D. HQ-SA/Rosendhal, J. D. 11-Astronomy

NSG 7235 **University of Florida** **1933**
Use of remote sensing in solving Florida's geological and coastal engineering problems
Period *Obligations*
07/01/76-06/30/79 FY76: $200,000 TOTAL: $200,000
Prin Invest *NASA Tech Officer* *CASE Category*
Brooks, H. K. HQ-P/Vitale, J. A. 39-Env Sci, NEC

NSG 8031 **University of Florida** **1934**
Space processing applications shuttle payload requirements specifications study
Period *Obligations*
09/26/75-03/25/76 FY76: $4,500 TOTAL: $4,500
Prin Invest *NASA Tech Officer* *CASE Category*
Goldberg, E. P. MSFC/Taylor, K. R. 19-Phys Sci, NEC

NAS 5-22417 **University of Miami** **1935**
Determination of potential solar power sites in Western Hemisphere
Period *Obligations*
06/05/75-09/05/77 FY76: $60,000 TOTAL: $95,000
Prin Invest *NASA Tech Officer* *CASE Category*
Hiser, H. W. GSFC/Thekaekara, M. P.
19-Phys Sci, NEC

NAS 5-22963 **University of Miami** **1936**
Nimbus G coastal zone color scanner sensor experiment

Period	*Obligations*	
02/02/76-02/02/79	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gordon, H. R.	GSFC/Hovis, W. A.	31-Atmos Sci

NAS10-8600 **University of Miami** **1937**
Laser application to measure verticle sea temperature and turbidity

Period	*Obligations*	
06/01/74-12/01/74	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hirschberg, J. G.	KSC/Bland, R. A. KSC/Toft, P. D.	39-Env Sci, NEC

NAS10-8740 **University of Miami** **1938**
Application of remote sensing for prediction and detection of thermal pollution

Period	*Obligations*	
10/15/74-12/31/75	FY76:	TOTAL: $110,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Veziroglu, T. N.	KSC/Bland, R. A.	39-Env Sci, NEC

NAS10-8795 **University of Miami** **1939**
Study of laser application to measure vertical sea temperature and turbidity

Period	*Obligations*	
03/01/75-02/27/76	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hirschberg, J. G. Wouters, A. W.	KSC/Bland, R. A. KSC/Toft, P. D.	39-Env Sci, NEC

NAS10-8926 **University of Miami** **1940**
Remote sensing for detection and prediction of thermal pollution

Period	*Obligations*	
01/06/76-01/05/77	FY76: $119,993	TOTAL: $119,993
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lee, S. S. Veziroglu, T. N. Ngupta, S. E.	KSC/Bland, R. A.	39-Env Sci, NEC

NAS10-8954 **University of Miami** **1941**
Development and application of a laser system as a remote sensor to measure subsurface temperature and turbidity

Period	*Obligations*	
03/22/76-03/21/77	FY76: $50,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hirschberg, J. G. Wouters, A. W.	KSC/Bland, R. A. KSC/Barnett, U. R.	39-Env Sci, NEC

NGR 10-007-008 **University of Miami** **1942**
Research in the Institute of Molecular Evolution in the School of Environmental and Planetary Sciences

Period	*Obligations*	
06/09/64-09/30/76	FY76: $175,900	TOTAL: $2,242,040
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fox, S. W.	HQ-SB/Young, R. S.	12-Chemistry

NGR 10-007-097 **University of Miami** **1943**
Water immersion study

Period	*Obligations*	
06/08/72-08/31/76	FY76:	TOTAL: $95,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Epstein, M.	JSC/Leach, C. S.	52-Clinical Med

NGR 10-007-118 **University of Miami** **1944**
Comparison of stress corrosion cracking behavior of high strength alloys in natural sea water and synthetic sea salt solutions

Period	*Obligations*	
11/26/73-01/01/77	FY76: $30,400	TOTAL: $73,150
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Craig, H. L., Jr.	LERC/Shannon, J. L., Jr. LERC/Brown, W. F., Jr.	47-Materials Engr

NSG 1283 **University of Miami** **1945**
Effects of environmental variables on the crack initiation stages of the corrosion fatigue of high strength aluminum alloys

Period	*Obligations*	
03/01/76-02/28/77	FY76: $29,700	TOTAL: $29,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Craig, H. L., Jr.	LARC/Lisagor, W. B. LARC/Ransone, P. O.	47-Materials Engr

NSG 7245 **University of Miami** **1946**
Excess helium in meteorites

Period	*Obligations*	
06/01/76-05/31/77	FY76: $22,080	TOTAL: $22,080
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fisher, D. E.	HQ-SL/French, B. M. HQ-SL/Flinn, E. A.	32-Geological Sci

S-55672A **University of Miami** **1947**
Study of optimum signal processing techniques

Period	*Obligations*	
03/29/76-03/15/77	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	GSFC/Shive, J.	45-Elec Engr

NAS 8-31172 **University of South Florida** **1948**
Investigation of electrical properties of conductive adhesives and film resistors

Period	*Obligations*	
02/07/75-03/06/77	FY76: $19,966	TOTAL: $39,837
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sergent, J.	MSFC/Caruso, S. V. MSFC/Dehaye, R. F.	45-Elec Engr

FLORIDA (Continued)

NSG 1159 **University of South Florida** **1949**

Non-Gaussian classification procedures of pattern recognition

Period	*Obligations*	
06/01/75-09/30/77	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tsokos, C. P.	LARC/Park, S. K.	21-Mathematics

NSG 3096 **University of South Florida** **1950**

Computerized power supply analysis: State equation generation and terminal models

Period	*Obligations*	
02/02/76-02/02/77	FY76: $24,549	TOTAL: $24,549
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Garrett, S. J.	LERC/Triner, J. E.	45-Elec Engr
Bowers, J. C.	LERC/Kolecki, J. C.	

NSG 7242 **University of South Florida** **1951**

Analysis of satellite observations of beta lyrae and other objects

Period	*Obligations*	
06/15/76-06/14/77	FY76: $12,640	TOTAL: $12,640
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilson, R. E.	HQ-SA/Roman, N. G.	11-Astronomy
	HQ-SA/Rosendhal, J. D.	

GEORGIA

NSG 8019 **Atlanta University** **1952**

A study of the redox photo-chemistry of a number of iron complexes

Period	*Obligations*	
09/01/74-09/01/76	FY76: $24,920	TOTAL: $50,173
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reed, J. L.	MSFC/Curry, J. E.	12-Chemistry
Johnson, J.	MSFC/Kent, M. I.	

NSG 2143 **Clark College** **1953**

Aerosol formation and the space shuttle program

Period	*Obligations*	
04/15/76-04/1[illegible]/77	FY76: $40,215	TOTAL: $40,215
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Walker, G. H.	ARC/Reynolds, R. T.	31-Atmos Sci

NGL 11-001-009 **Emory University** **1954**

Study of cardiovascular adaptation during long-term weightlessness

Period	*Obligations*	
05/12/65-06/30/79	FY76:	TOTAL: $497,179
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Popovic, V. P.	ARC/Holton, E. M.	51-Biology

NGR 11-001-012 **Emory University** **1955**

Effects of gravitational stimuii on sleep and vestibular function

Period	*Obligations*	
06/01/65-12/01/75	FY76:	TOTAL: $566,038
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Perachio, A. A.	ARC/Winter, D. L.	61-Biol Aspects

NGR 11-001-016 **Emory University** **1956**

Histopathological & histochemical study of subhuman primates

Period	*Obligations*	
10/01/63-02/28/77	FY76: $64,350	TOTAL: $770,162
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bourne, G. H.	ARC/Sandler, H.	51-Biology

NGR 11-001-045 **Emory University** **1957**

Vestibular influence on sleep in non-human primates

Period	*Obligations*	
10/07/71-12/31/76	FY76: $75,600	TOTAL: $286,088
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Perachio, A. A.	ARC/Daunton, N. G.	59-Life Sci, NEC

H-23602B **Georgia Institute of Technology** **1958**

Microprobe analysis of aluminum and oxygen on steel samples

Period	*Obligations*	
04/29/76-05/15/76	FY76: $575	TOTAL: $575
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brown, J.	MSFC/Eudy, R. G.	47-Materials Engr

NAS 1-13422 **Georgia Institute of Technology** **1959**

Study of biological experiments for the Viking mission

Period	*Obligations*	
09/13/74-03/31/77	FY76:	TOTAL: $39,255
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hubbard, J. S.	LARC/Williams, T. S., Jr.	51-Biology
	LARC/Glenny, W. R.	

NAS 1-14351 **Georgia Institute of Technology** **1960**

Benefit assessment of pollution monitoring satellites

Period	*Obligations*	
02/26/76-02/25/77	FY76: $50,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zimmer, R. P.	LARC/Lawrence, G. F.	31-Atmos Sci
Sassone, P.	LARC/Rarer, J. L.	
Haffer, S. C.		

NAS 3-17827 **Georgia Institute of Technology** **1961**

Benefit-cost methodology study with use of wind generators application

Period	*Obligations*	
06/10/74-08/09/75	FY76:	TOTAL: $67,189
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zimmer, R. P.	LERC/Hein, G. F.	49-Engr, NEC

NASA'S UNIVERSITY PROGRAM
GEORGIA (Continued)

NAS 3-18901 **Georgia Institute of Technology** 1962
S-band omnidirectional antenna

Period	Obligations	
06/24/74-12/23/74	FY76:	TOTAL: $75,331
Prin. Invest.	NASA Tech. Officer	CASE Category
Bassett, H. L.	LERC/Conroy, M. J.	45-Elec Engr

NAS 3-19700 **Georgia Institute of Technology** 1963
Cost benefits of space communications technology

Period	Obligations	
05/09/75-04/30/76	FY76:	TOTAL: $91,038
Prin. Invest.	NASA Tech. Officer	CASE Category
Camp, A. A.	LERC/Stevenson, S. M.	49-Engr, NEC

NAS 3-20110 **Georgia Institute of Technology** 1964
Millimeter wave satellite concepts

Period	Obligations	
06/01/76-03/01/77	FY76: $83,793	TOTAL: $83,793
Prin. Invest.	NASA Tech. Officer	CASE Category
Hilson, N.	LERC/Stevens, G.	45-Elec Engr

NAS 5-20956 **Georgia Institute of Technology** 1965
Research on instrumentation for tornado electromagnetic emissions detection

Period	Obligations	
02/07/75-02/18/77	FY76: $43,433	TOTAL: $107,277
Prin. Invest.	NASA Tech. Officer	CASE Category
Robertson, D. W.	GSFC/Levine, D. M.	31-Atmos Sci

NAS 5-22344 **Georgia Institute of Technology** 1966
Applications of near-field measurements for NASA requirements

Period	Obligations	
06/11/75-02/11/76	FY76:	TOTAL: $43,995
Prin. Invest.	NASA Tech. Officer	CASE Category
Ryan, C. E.	GSFC/O'Donnell, H.	45-Elec Engr

NAS 5-22422 **Georgia Institute of Technology** 1967
Study of electrically small antennas for wildlife monitoring

Period	Obligations	
06/12/75-06/12/76	FY76:	TOTAL: $50,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Bassett, H. L. Jenkins, H. H.	GSFC/Dod, L. R.	45-Elec Engr

NAS 5-23603 **Georgia Institute of Technology** 1968
Dual channel 180 GHz radiometer for Convair flights

Period	Obligations	
06/19/76-04/18/77	FY76: $35,000	TOTAL: $35,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Dees, J. W. Schuchardt, J. M.	GSFC/King, J. L. GSFC/Shiue, J. C.	45-Elec Engr

NAS 8-30246 **Georgia Institute of Technology** 1969
Multiple halogram recording in lithium niobate

Period	Obligations	
10/01/73-01/01/76	FY76:	TOTAL: $28,976
Prin. Invest.	NASA Tech. Officer	CASE Category
Callen, W. R. Gaylord, T. K.	MSFC/Kerr, J. H. MSFC/Pitts, E. H.	13-Physics

NAS 8-30534 **Georgia Institute of Technology** 1970
Analysis of six band multispectral images and fabrication of a Fourier transform detector

Period	Obligations	
12/21/73-06/21/75	FY76:	TOTAL: $59,881
Prin. Invest.	NASA Tech. Officer	CASE Category
Shackelford, R. G.	MSFC/Kerr, J. H.	99-Multi-Discip

NAS 8-30617 **Georgia Institute of Technology** 1971
Probability analysis of crank initiation

Period	Obligations	
03/22/74-09/30/76	FY76:	TOTAL: $19,342
Prin. Invest.	NASA Tech. Officer	CASE Category
Hanagud, S. V.	MSFC/Bianca, C. J. MSFC/Key, J. E.	19-Phys Sci, NEC

NAS 8-30653 **Georgia Institute of Technology** 1972
USGS/NASA land-use classification system

Period	Obligations	
04/02/74-12/31/76	FY76: $20,000	TOTAL: $49,980
Prin. Invest.	NASA Tech. Officer	CASE Category
Dees, J. W. Faust, N. L. Spann, G. W.	MSFC/Paludan, C. T. MSFC/Huffman, J. D.	39-Env Sci, NEC

NAS 8-30657 **Georgia Institute of Technology** 1973
Neutral thermodynamic atmospheric model research study

Period	Obligations	
04/22/74-10/31/76	FY76: $25,000	TOTAL: $81,637
Prin. Invest.	NASA Tech. Officer	CASE Category
Justus, C. G.	MSFC/Smith, O. E. MSFC/Brown, S. C.	49-Engr, NEC

NAS 8-30919 **Georgia Institute of Technology** 1974
Time delay profiles for teleoperator

Period	Obligations	
06/06/74-05/21/75	FY76:	TOTAL: $39,835
Prin. Invest.	NASA Tech. Officer	CASE Category
Walsh, J. R.	MSFC/Huggins, C. T.	21-Mathematics

NAS 8-31193 **Georgia Institute of Technology** 1975
A laser scanner for 35 mm film

Period	Obligations	
02/25/75-10/24/76	FY76: $8,978	TOTAL: $58,945
Prin. Invest.	NASA Tech. Officer	CASE Category
Callen, W. R.	MSFC/Kerr, J. H. MSFC/Smith, H. L.	13-Physics

GEORGIA (Continued)

NAS 8-31344 **Georgia Institute of Technology** **1976**
Define conceptional design of an on-board optical processor with components

Period	Obligations	
03/10/75-10/09/76	FY76: $39,909	TOTAL: $99,708
Prin. Invest.	NASA Tech. Officer	CASE Category
Walsh, J. R.	MSFC/Smith, H.	13-Physics

NAS 8-31850 **Georgia Institute of Technology** **1977**
Computer processing of peach tree decline data

Period	Obligations	
02/13/76-10/12/76	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Faust, N. L.	MSFC/Downs, S. W., Jr. MSFC/Paludan, C. T.	39-Env Sci, NEC

NAS 8-31990 **Georgia Institute of Technology** **1978**
Digital analysis of LANDSAT data

Period	Obligations	
06/25/76-12/27/76	FY76: $18,900	TOTAL: $18,900
Prin. Invest.	NASA Tech. Officer	CASE Category
Faust, C. E.	MSFC/Downs, S. W., Jr. MSFC/Bensko, J.	32-Geological Sci

NAS10-8375 **Georgia Institute of Technology** **1979**
Study of computer model development for electrical power system

Period	Obligations	
06/26/73-12/24/74	FY76:	TOTAL: $99,246
Prin. Invest.	NASA Tech. Officer	CASE Category
Webb, R. P. Hayes, T. P. Meliopoulos, A. P.	KSC/Wright, M. I.	45-Elec Engr

NGL 11-002-004 **Georgia Institute of Technology** **1980**
Theoretical and experimental research program in geophysics with emphasis on upper atmosphere chemical release studies

Period	Obligations	
09/27/62-05/31/78	FY76: $35,000	TOTAL: $745,075
Prin. Invest.	NASA Tech. Officer	CASE Category
Edwards, H. D.	HQ-SL/Fellows, R. F. HQ-SL/Hipsher, H. F.	31-Atmos Sci

NGL 11-002-096 **Georgia Institute of Technology** **1981**
Research on stability of large shells

Period	Obligations	
04/04/69-06/30/76	FY76:	TOTAL: $468,473
Prin. Invest.	NASA Tech. Officer	CASE Category
Horton, W. H.	LARC/Peterson, J. P.	41-Aero Engr

NGR 11-002-133 **Georgia Institute of Technology** **1982**
Investigations of lubricant rheology as applied to elastohydrodynamic lubrication

Period	Obligations	
03/05/71-04/04/76	FY76:	TOTAL: $164,383
Prin. Invest.	NASA Tech. Officer	CASE Category
Winer, W. O. Sanborn, D. M.	LERC/Jones, W. R., Jr.	46-Mech Engr

NGR 11-002-169 **Georgia Institute of Technology** **1983**
Reliability-based fatigue design and maintenance procedures: Fatigue theories

Period	Obligations	
02/09/73-06/30/76	FY76:	TOTAL: $44,090
Prin. Invest.	NASA Tech. Officer	CASE Category
Hanagud, S. V.	LARC/Leybold, H. A. LARC/Davidson, J. R.	21-Mathematics

NGR 11-002-177 **Georgia Institute of Technology** **1984**
Study of effects of injector geometry on fuel air mixing and combustion 1973

Period	Obligations	
09/01/73-01/31/77	FY76:	TOTAL: $48,898
Prin. Invest.	NASA Tech. Officer	CASE Category
Bangert, L. H.	LARC/Eggers, J. M.	41-Aero Engr

NGR 11-002-179 **Georgia Institute of Technology** **1985**
Determination of effects of nozzle nonlinearities upon nonlinear stability of liquid

Period	Obligations	
07/02/73-11/01/75	FY76:	TOTAL: $49,570
Prin. Invest.	NASA Tech. Officer	CASE Category
Zinn, B. T.	LERC/Priem, R. J.	42-Astro Engr

NSG 1047 **Georgia Institute of Technology** **1986**
Propagation of aircraft noise

Period	Obligations	
05/01/74-05/31/76	FY76:	TOTAL: $53,295
Prin. Invest.	NASA Tech. Officer	CASE Category
Hadden, W. J., Jr. Pierce, A. D.	LARC/Posey, J. W. LARC/Clark, L. R.	13-Physics

NSG 1257 **Georgia Institute of Technology** **1987**
Flow field measurements in and around a jet issuing from a wing in crossflow

Period	Obligations	
10/01/75-09/30/76	FY76: $35,581	TOTAL: $35,581
Prin. Invest.	NASA Tech. Officer	CASE Category
McMahon, H. M.	LARC/Weston, R. P.	41-Aero Engr

NSG 1288 **Georgia Institute of Technology** **1988**
Analysis of the gas core actinite transmutation reactor

Period	Obligations	
03/01/76-02/28/77	FY76: $56,639	TOTAL: $56,639
Prin. Invest.	NASA Tech. Officer	CASE Category
Clement, J. D. Rust, J. H.	LARC/Hohl, F.	19-Phys Sci, NEC

GEORGIA (Continued)

NSG 1307 **Georgia Institute of Technology** **1989**
Wing shielding in aircraft noise propagation

Period	*Obligations*	
06/01/76-11/30/76	FY76: $16,030	TOTAL: $16,030
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pierce, A. D. Hadden, W. J., Jr.	LARC/Preisser, J. S. LARC/Hardin, J. C.	13-Physics

NSG 2054 **Georgia Institute of Technology** **1990**
Prediction of cryogenic heat pipe performance

Period	*Obligations*	
01/01/75-09/30/76	FY76: $4,300	TOTAL: $21,270
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Colwell, G. T.	ARC/Kirkpatrick, J. P. ARC/McCreight, C. R.	46-Mech Engr

NSG 3015 **Georgia Institute of Technology** **1991**
Combustion and entropy noise in turbopropulsion systems

Period	*Obligations*	
07/15/74-07/14/77	FY76: $81,613	TOTAL: $122,466
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Strahle, W. C.	LERC/Huff, R. G.	13-Physics

NSG 3036 **Georgia Institute of Technology** **1992**
Acoustic properties of turbofan inlets

Period	*Obligations*	
09/01/74-08/31/77	FY76:	TOTAL: $45,002
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zinn, B. T. Kirkland, R. K.	LERC/Feiler, C. E. LERC/Rice, E. J.	41-Aero Engr

NSG 3052 **Georgia Institute of Technology** **1993**
Experimental determination of rocket injector response factors under reactive conditions

Period	*Obligations*	
03/01/75-02/28/77	FY76: $53,860	TOTAL: $103,687
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zinn, B. T.	LERC/Priem, R. J.	42-Astro Engr

NSG 3106 **Georgia Institute of Technology** **1994**
Surface temperatures and glassy state investigations in tribology

Period	*Obligations*	
05/15/76-05/14/77	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Winer, W. O. Sanborn, D. M.	LERC/Wedeven, L. D.	46-Mech Engr

NSG 5012 **Georgia Institute of Technology** **1995**
Research in millimeter wave techniques

Period	*Obligations*	
06/15/74-10/31/76	FY76: $145,001	TOTAL: $251,434
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dees, J. W. Gallagher, J. J. Ngley, L. A.	GSFC/King, J. L. GSFC/Shive, J.	45-Elec Engr

NSG 5082 **Georgia Institute of Technology** **1996**
Permittivity of sea water at millimeter wavelengths

Period	*Obligations*	
10/01/75-08/15/76	FY76: $31,971	TOTAL: $31,971
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Blue, M. D.	GSFC/King, J. L.	31-Atmos Sci

NSG 7067 **Georgia Institute of Technology** **1997**
Analysis of advanced reactor for geosynchronous power plants

Period	*Obligations*	
06/01/74-12/31/74	FY76:	TOTAL: $19,898
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Williams, R. J.	HQ-RR/Thom, K. LARC/Hohl, F.	13-Physics

NSG 7069 **Georgia Institute of Technology** **1998**
Photocatalytic synthesis on planetary surfaces: Molecular bases for the adaptation of halophilic microorganisms

Period	*Obligations*	
09/15/74-08/31/76	FY76: $9,883	TOTAL: $34,862
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hubbard, J. S.	HQ-SB/Young, R. S.	51-Biology

NSG 9040 **Georgia Institute of Technology** **1999**
Carbon distribution profiles in lunar fines

Period	*Obligations*	
02/01/76-01/31/77	FY76: $9,000	TOTAL: $9,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hart, R. K.	JSC/Harris, J. W.	43-Chem Engr

NAS 8-30884 **Georgia Southwestern College** **2000**
Research in geological-vegatative relationships

Period	*Obligations*	
09/01/74-12/31/77	FY76: $11,000	TOTAL: $48,962
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Arden, D. D. Westra, R. N.	MSFC/Bensko, J. MSFC/Jones, R. E.	32-Geological Sci

NAS 5-23571 **Morehouse College** **2001**
Application of medical information management system for medical record keeping

Period	*Obligations*	
06/09/76-07/08/77	FY76: $33,000	TOTAL: $33,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Norris, T. E. Sullivan, L. W.	GSFC/Alterescu, S. GSFC/Friedman, D. S.	52-Clinical Med

NGL 11-008-001 **Morehouse College** **2002**
A research program in atmospheric and astro chemistry

Period	*Obligations*	
05/22/72-04/01/78	FY76:	TOTAL: $119,444
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gales, J. N. Merideth, C. W.	MSFC/Stephens, J. B. MSFC/Kent, M. I.	12-Chemistry

NGT 11-008-004 **Morehouse College** **2003**

Training of undergraduate students in sciences and engineering

Period	Obligations	
06/01/74-05/31/77	FY76: $7,000	TOTAL: $21,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gayles, J. N.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	99-Multi-Discip

NSG 8014 **Morehouse College** **2004**

A research program in magnetogasdynamics

Period	Obligations	
06/03/74-05/31/76	FY76:	TOTAL: $15,906
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spight, C.	MSFC/Shriver, E. L. MSFC/Kent, M. I.	13-Physics

NSG 8020 **Morehouse College** **2005**

A study for a heavy atom tracer method for the measurement of turbulence in plasmas

Period	Obligations	
08/01/74-08/31/76	FY76: $24,199	TOTAL: $61,222
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Turner, J. M.	MSFC/Stone, N. H. MSFC/Kent, M. I.	13-Physics

NSG 8030 **Morehouse College** **2006**

Theoretical isotope effects to determine molecular structures: Thermodynamics comparisons inside and outside earth's atmosphere

Period	Obligations	
10/15/75-10/14/76	FY76: $38,948	TOTAL: $38,948
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frazier, D. O.	MSFC/Clemons, J. M. MSFC/Kent, M. I.	12-Chemistry

NSG 8039 **Morehouse College** **2007**

Analysis of pulsed magnetogasdynamic direct energy converter configurations

Period	Obligations	
06/01/76-05/31/77	FY76: $13,033	TOTAL: $13,033
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spight, C.	MSFC/Williams, J. R. MSFC/Kent, M. I.	13-Physics

NSG 8027 **Morris Brown College** **2008**

Increasing adhesion of paracyclophane polymers to epoxy glass laminate surfaces

Period	Obligations	
06/01/75-09/01/76	FY76:	TOTAL: $22,593
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weaver, F.	MSFC/Patterson, W. J. MSFC/Kent, M. I.	12-Chemistry

NAS 8-30619 **North Georgia College** **2009**

Correlation studies of remote sensing and fine beetle infestation

Period	Obligations	
04/09/74-03/31/77	FY76:	TOTAL: $19,788
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Biesbrock, J. A.	MSFC/Downs, S. W., Jr. MSFC/Paludan, C. T.	51-Biology

NSG 8002 **Paine College** **2010**

Study of materials for space processing

Period	Obligations	
01/14/74-05/31/76	FY76:	TOTAL: $43,654
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Owais, M.	MSFC/Bannister, T. C. MSFC/Kent, M. I.	13-Physics

NSG 803 **Savannah State College** **2011**

Toxic elements and organic degradation products in aquatic bodies and sediments around KSC

Period	Obligations	
09/23/74-09/22/76	FY76: $25,484	TOTAL: $56,044
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ghuman, G. S. Menon, M. P. Obi Emeh, C.	KSC/Perkins, E. E.	39-Env Sci, NEC

NGT 11-013-001 **Spelman College** **2012**

Training of undergraduate students in sciences and engineering

Period	Obligations	
06/01/74-05/31/77	FY76: $7,000	TOTAL: $21,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McBay, S. M.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	99-Multi-Discip

NAS 8-31565 **University of Georgia** **2013**

Study to design variable orientation solar concentrators for space applications

Period	Obligations	
06/16/75-01/15/76	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Burkhard, D. G.	MSFC/Clingman, J. H. MSFC/Whitacre, W. E.	13-Physics

NASW 2658 **University of Georgia** **2014**

Computer Software Management Information Center

Period	Obligations	
07/01/74-06/30/75	FY76:	TOTAL: $210,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-KT/Harrison, J. O.	99-Multi-Discip

GEORGIA (Continued)

NASW 2820 — **University of Georgia** — **2015**

Operation of the Computer Software Management Information Center

Period	Obligations	
07/01/75-06/30/76	FY76: $170,000	TOTAL: $170,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Carmon, J. L. Park, M. K. McRae, W. B.	HQ-KT/Harrison, J. O.	99-Multi-Discip

NGR 11-003-037 — **University of Georgia** — **2016**

Interpretation of stratigraphy and geologic mapping of Mars from Mariner/Mars 1971 television pictures

Period	Obligations	
05/24/72-04/14/77	FY76:	TOTAL: $66,300

Prin. Invest.	NASA Tech. Officer	CASE Category
Howard, H. T. Woodruff, J. F.	HQ-SL/Dwornik, S. E.	32-Geological Sci

HAWAII

NAS 2-8590 — **University of Hawaii** — **2017**

Research in packet broadcasting

Period	Obligations	
10/01/74-09/30/76	FY76: $188,000	TOTAL: $588,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Kuo, F. F. Abramson, N.	ARC/Smith, M. C., Jr.	99-Multi-Discip

NAS 2-8687 — **University of Hawaii** — **2018**

Study on metabolism and energetics in hypo-gravity

Period	Obligations	
10/01/74-03/31/76	FY76: $17,500	TOTAL: $52,500

Prin. Invest.	NASA Tech. Officer	CASE Category
Siegel, S. M.	ARC/Taketa, S. T.	51-Biology

NAS 2-9175 — **University of Hawaii** — **2019**

Communications processor design and implementation

Period	Obligations	
03/29/76-06/07/76	FY76: $45,080	TOTAL: $45,080

Prin. Invest.	NASA Tech. Officer	CASE Category
Lichtenberger, W. W.	ARC/Smith, M. C., Jr.	45-Elec Engr

NASW 2326 — **University of Hawaii** — **2020**

Design development and fabrication of research equipment

Period	Obligations	
06/22/72-06/30/76	FY76:	TOTAL: $360,102

Prin. Invest.	NASA Tech. Officer	CASE Category
Jefferies, J. T.	HQ-SL/Strickland, A. T.	11-Astronomy

NASW 2742 — **University of Hawaii** — **2021**

Construction and installation of a 3-meter aperture infrared telescope facility

Period	Obligations	
08/20/74-12/31/75	FY76: $22,200	TOTAL: $557,200

Prin. Invest.	NASA Tech. Officer	CASE Category
Jefferies, J. T.	HQ-BX/Weir, J. F. HQ-SL/Brunk, W. E.	11-Astronomy

NASW 2801 — **University of Hawaii** — **2022**

Construction of the three meter infrared telescope facility at Mauna Kea, Hawaii

Period	Obligations	
06/01/75-10/31/77	FY76: $6,020,000	TOTAL: $6,020,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Jefferies, J. T.	HQ-BX/Weir, J. F. HQ-SL/Brunk, W. E.	11-Astronomy

NGF 12-001-102 — **University of Hawaii** — **2023**

Acquisition of scientific research facilities

Period	Obligations	
05/12/72-06/30/74	FY76:	TOTAL: $142,800

Prin. Invest.	NASA Tech. Officer	CASE Category
Jefferies, J. T.	HQ-SM/Strickland, A. T.	11-Astronomy

NGL 12-001-011 — **University of Hawaii** — **2024**

Research in coronal and chromospheric physics

Period	Obligations	
11/16/64-10/31/76	FY76: $195,000	TOTAL: $3,419,234

Prin. Invest.	NASA Tech. Officer	CASE Category
Jefferies, J. T.	HQ-ST/Timothy, A. F.	11-Astronomy

NGL 12-001-042 — **University of Hawaii** — **2025**

Performance and capabilities of terrestrial organisms in extreme and unusually gaseous and liquid environments

Period	Obligations	
04/14/67-06/30/77	FY76:	TOTAL: $451,378

Prin. Invest.	NASA Tech. Officer	CASE Category
Siegel, S. M.	HQ-SB/Young, R. S.	51-Biology

NGL 12-001-057 — **University of Hawaii** — **2026**

Research in planetary studies

Period	Obligations	
05/21/68-06/30/78	FY76: $406,900	TOTAL: $2,605,372

Prin. Invest.	NASA Tech. Officer	CASE Category
Jefferies, J. T.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGR 12-001-075 — **University of Hawaii** — **2027**

Research in solar ultraviolet spectroscopy

Period	Obligations	
12/09/69-09/30/76	FY76: $200,000	TOTAL: $1,650,421

Prin. Invest.	NASA Tech. Officer	CASE Category
Jeffries, J. T. McAllister, H. C.	GSFC/Bissell, E. E., Jr. HQ-ST/Timothy, A. F.	11-Astronomy

HAWAII (Continued)

NGR 12-001-109 **University of Hawaii** **2028**
N-heterocyclic compounds role in chemical evolution distribution in meteorites ancient sediments and as products of spark discharge reactions
Period *Obligations*
06/26/72-05/14/77 FY76: $69,212 TOTAL: $154,839
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Folsome, C. E. HQ-SB/Young, R. S. 12-Chemistry

NGR 12-001-127 **University of Hawaii** **2029**
Operation of the Haleakala lunar ranging observatory
Period *Obligations*
06/01/73-06/30/76 FY76: $370,700 TOTAL: $1,067,900
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jefferies, J. T. HQ-SL/Strickland, A. T.
Carter, W. E. 32-Geological Sci

NSG 5027 **University of Hawaii** **2030**
A search for boron in ap stars
Period *Obligations*
10/14/74-12/31/75 FY76: TOTAL: $11,507
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Boesgaard, A. M. GSFC/Kupperian, J. E. 11-Astronomy

NSG 5096 **University of Hawaii** **2031**
Abundance of boron in normal b and a type stars
Period *Obligations*
02/01/76-01/31/77 FY76: $14,800 TOTAL: $14,800
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Boesgaard, A. M. GSFC/Kupperian, J. E. 11-Astronomy

NSG 7179 **University of Hawaii** **2032**
Crustal deformation observations
Period *Obligations*
10/20/75-01/31/77 FY76: $16,012 TOTAL: $16,012
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Berg, E. HQ-SL/Strickland, A. T.
Sutton, G. H. 19-Phys Sci, NEC

NSR 12-001-019 **University of Hawaii** **2033**
Design, development, fabrication & installation of a 84 inch telescope for lunar planetary & stellar observations
Period *Obligations*
06/30/65-06/30/75 FY76: TOTAL: $3,024,796
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jefferies, J. T. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

ILLINOIS

NSG 3030 **Chicago State University** **2034**
The restoration of obliterated serial numbers by ultrasonically cavitated water
Period *Obligations*
07/01/74-08/31/77 FY76: $30,860 TOTAL: $56,848
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Treptow, R. S. LERC/Young, S. G. 99-Multi-Discip

NSG 1120 **Illinois Institute of Technology** **2035**
Streamwise vortices in turbulent shear flows
Period *Obligations*
11/08/74-07/31/76 FY76: TOTAL: $15,003
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Nagib, H. M. LARC/Beckwith, I. E. 41-Aero Engr
Morkovin, M. V. LARC/Stainback, P. C.

NSG 1266 **Illinois Institute of Technology** **2036**
Automated sizing of aerospace structures under multiple constraints
Period *Obligations*
12/01/75-11/31/76 FY76: $35,900 TOTAL: $35,900
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Haftka, R. T. LARC/Starnes, J. H., Jr. 41-Aero Engr

NSG 7039 **Illinois Institute of Technology** **2037**
Review of coaxial flows with application to gas core nuclear reactors
Period *Obligations*
06/01/74-06/30/76 FY76: TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Weinstein, H. HQ-RR/Thom, K. 13-Physics
LARC/Hohl, F.

NAS 9-12280 **Northwestern University** **2038**
Star study
Period *Obligations*
11/23/71-0[illegible]/30/76 FY76: TOTAL: $45,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Telford, J. W. JSC/Henize, K. G. 11-Astronomy

NGL 14-007-016 **Northwestern University** **2039**
Optical study
Period *Obligations*
02/05/65-11/30/74 FY76: TOTAL: $705,863
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hynek, J. A. HQ-SM/Bryson, R. P. 32-Geological Sci

NGL 14-007-041 **Northwestern University** **2040**
A study of celestial objects of high angular momenta
Period *Obligations*
02/18/66-04/30/77 FY76: $28,000 TOTAL: $245,251
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Huang, S. S. HQ-SA/Rosendhal, J. D. 11-Astronomy
HQ-SA/Roman, N. G.

ILLINOIS (Continued)

NGL 14-007-058 **Northwestern University** 2041

Research program in administration

Period	*Obligations*	
06/04/68-06/30/75	FY76:	TOTAL: $425,250
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Radnor, M.	HQ-P/Morris, J. D.	79-Soc Sci, NEC

NGL 14-007-081 **Northwestern University** 2042

Potential and charge distribution near a metallic interface

Period	*Obligations*	
01/21/69-12/31/75	FY76:	TOTAL: $150,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Waber, J. T.	LERC/Lad, R. A. LERC/Bambakidis, G.	13-Physics

NGR 14-007-084 **Northwestern University** 2043

Effects of surface irregularities and friction on elastohydrodynamic lubrication

Period	*Obligations*	
10/20/69-03/31/76	FY76:	TOTAL: $132,922
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cheng, H.	LERC/Zaretsky, E. V.	46-Mech Engr

NGR 14-007-122 **Northwestern University** 2044

Time variations of UV emission features of be stars

Period	*Obligations*	
08/01/72-01/31/75	FY76:	TOTAL: $14,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bahng, J. D.	HQ-SA/Roman, N. G.	11-Astronomy

NGR 14-007-131 **Northwestern University** 2045

Study of electronic factors in fracture of metals

Period	*Obligations*	
07/30/73-04/01/77	FY76:	TOTAL: $75,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Waber, J. T.	LERC/Behrendt, D. R.	13-Physics

NGR 14-007-136 **Northwestern University** 2046

Study of NASA and its laboratories in a changing environment

Period	*Obligations*	
11/01/73-09/15/76	FY76: $10,000	TOTAL: $34,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Radnor, M.	HQ-Q/Keller, S. W.	99-Multi-Discip

NSG 2149 **Northwestern University** 2047

Technological and economic factors affecting the retirement dates of commercial jet aircraft

Period	*Obligations*	
04/01/76-09/30/76	FY76: $14,992	TOTAL: $14,992
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spencer, F. A. Swanson, J. A.	ARC/Williams, L. J. ARC/Waters, M. H.	41-Aero Engr

NSG 3039 **Northwestern University** 2048

Investigation of interaction of turbine blade tips and labyrinth seals with housings of jet engines and gas turbines

Period	*Obligations*	
09/16/74-08/31/76	FY76: $33,999	TOTAL: $68,936
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Burton, R. A.	LERC/Ludwig, L. P.	47-Materials Engr

NSG 3042 **Northwestern University** 2049

Influence of high traction fluids on elastohydrodynamic traction

Period	*Obligations*	
01/15/75-09/14/77	FY76:	TOTAL: $4,982
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cheng, H. S.	LERC/Zaretsky, E. V.	46-Mech Engr

NGR 14-008-026 **Southern Illinois University - Carbondale** 2050

Characterization of developmental physiology of previously unstudied life form, obligately, halophilic blue-green algae, aphanothece halothytica

Period	*Obligations*	
05/08/73-05/31/77	FY76:	TOTAL: $111,202
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Yopp, J. H.	HQ-SB/Young, R. S.	51-Biology

NAS 2-6551 **University of Chicago** 2051

Pioneer F/G charged particle experiment data analysis

Period	*Obligations*	
08/09/71-06/30/76	FY76: $224,157	TOTAL: $892,640
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Simpson, J. A.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 5-11067 **University of Chicago** 2052

IMP-H&J solar flare and isotope experiment

Period	*Obligations*	
06/11/68-11/30/76	FY76: $130,040	TOTAL: $1,650,928
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Simpson, J. A.	GSFC/Davis, M. A.	13-Physics

NAS 5-20674 **University of Chicago** 2053

Quasi ray electrons experiment for ISEE-C

Period	*Obligations*	
10/24/74-07/31/80	FY76: $417,000	TOTAL: $506,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Meyer, P.	GSFC/Gallagher, W. F.	13-Physics

NAS 5-20967 **University of Chicago** 2054

Study for adaptation of transition radiation experiment to spacelab shuttle missions

Period	*Obligations*	
02/19/75-06/30/76	FY76: $35,000	TOTAL: $114,688
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Meyer, P. Muller, D. Lamport, J.	GSFC/White, A. F., Jr.	11-Astronomy

ILLINOIS (Continued)

NGL 14-001-001 University of Chicago 2055
Investigation of effects of solar wind in interplanetary space
Period *Obligations*
08/01/60-07/31/78 FY76: $70,000 TOTAL: $972,372
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Parker, E. N. HQ-SA/Opp, A. G. 11-Astronomy

NGL 14-001-005 University of Chicago 2056
High altitude balloon investigations on composition, energy spectrum & intensity of primary cosmic radiation at high & intermediate geomagnetic latitudes
Period *Obligations*
05/01/61-10/31/78 FY76: $365,000 TOTAL: $4,712,258
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Meyer, P. HQ-SA/Pellerin, C. 11-Astronomy
HQ-SA/Opp, A. G.

NGL 14-001-006 University of Chicago 2057
Experimental and theoretical studies of energetic particles and electrodynamical processes in interplanetary space and in vicinity of planets
Period *Obligations*
08/01/61-07/31/77 FY76: $479,160 TOTAL: $5,076,556
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Simpson, J. A. HQ-SA/Sofia, S. 11-Astronomy
HQ-SA/Opp, A. G.

NGL 14-001-010 University of Chicago 2058
Research and investigation of origin, age and composition of meteorites
Period *Obligations*
03/11/63-03/31/79 FY76: $168,900 TOTAL: $1,317,403
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anders, E. HQ-SL/French, B. M. 32-Geological Sci
Lewis, R. S. HQ-SL/Flinn, E. A.

NGL 14-001-167 University of Chicago 2059
Lunar sample analysis
Period *Obligations*
03/29/72-01/31/79 FY76: $223,000 TOTAL: $1,181,830
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anders, E. JSC/Harris, J. W. 13-Physics

NGL 14-001-169 University of Chicago 2060
Lunar sample analysis
Period *Obligations*
01/19/71-01/31/79 FY76: $161,400 TOTAL: $531,230
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clayton, R. N. JSC/Harris, J. W. 12-Chemistry

NGL 14-001-171 University of Chicago 2061
Lunar sample analysis
Period *Obligations*
01/19/71-01/31/79 FY76: $111,080 TOTAL: $443,080
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smith, J. V. JSC/Harris, J. W. 13-Physics

NGL 14-001-258 University of Chicago 2062
Advanced technical developments in support of scientific experiments in space
Period *Obligations*
06/15/73-06/30/77 FY76: $200,000 TOTAL: $800,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Simpson, J. A. HQ-P/Carter, C. H. 99-Multi-Discip

NGR 14-001-008 University of Chicago 2063
Meteorological interpretation of satellite radiation data
Period *Obligations*
09/01/70-10/31/76 FY76: $278,000 TOTAL: $1,209,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fujita, T. T. GSFC/Shenk, W. E. 31-Atmos Sci

NGR 14-001-135 University of Chicago 2064
Feasibility of the alpha scattering technique for Martian surface analysis
Period *Obligations*
02/25/69-06/30/76 FY76: $75,000 TOTAL: $554,852
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Turkevich, A. L. HQ-SL/Dwornik, S. E. 32-Geological Sci

NGR 14-001-147 University of Chicago 2065
Interferometric high-resolution spectroscopy of optical interstellar lines
Period *Obligations*
03/18/70-12/31/76 FY76: $25,684 TOTAL: $172,458
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hobbs, L. M. HQ-SA/Rosendhal, J. D. 11-Astronomy
HQ-SA/Roman, N. G.

NGR 14-001-164 University of Chicago 2066
Spectral measurement of the X-ray emission from nonflare solar active region
Period *Obligations*
05/19/70-12/31/75 FY76: TOTAL: $651,065
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Blake, R. L. HQ-ST/Timothy, A. F. 11-Astronomy

NGR 14-001-194 University of Chicago 2067
Quantitative spectroscopy of planetary atmospheres
Period *Obligations*
07/20/71-04/14/79 FY76: TOTAL: $156,037
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kaplan, L. D. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NGR 14-001-211 University of Chicago 2068
Far infrared photometry of H-II regions and planets using the NASA 30 cm flying infrared telescope
Period *Obligations*
02/14/72-10/31/76 FY76: $43,000 TOTAL: $219,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harper, D. A., Jr. ARC/Cameron, R. M. 11-Astronomy
ARC/Mason, R. H.

NGR 14-001-225 **University of Chicago** **2069**
Physiology of the vestibular system of the squirrel monkey
Period *Obligations*
05/12/67-08/31/76 FY76: $60,000 TOTAL: $277,893
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goldberg, J. M. ARC/Daunton, N. G. 51-Biology
Fernandez, C. ARC/Mehler, W. R.

NGR 14-001-227 **University of Chicago** **2070**
Photometry of galactic and extragalactic far infrared sources using the 91.5 cm airborne infrared telescope
Period *Obligations*
02/27/73-03/31/77 FY76: $62,000 TOTAL: $286,174
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harper, D. A., Jr. ARC/Gillespie, C. M., Jr. 11-Astronomy
ARC/Cameron, R. M.

NGR 14-001-249 **University of Chicago** **2071**
Physical properties of solar nebula as deduced from chondrites
Period *Obligations*
05/14/73-03/31/79 FY76: $216,771 TOTAL: $355,267
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Grossman, L. HQ-SL/French, B. M. 32-Geological Sci
Ganapathy, R. HQ-SL/Flinn, E. A.

NSG 2057 **University of Chicago** **2072**
Study of sensitive detection system for far infrared astronomy
Period *Obligations*
12/01/74-10/31/76 FY76: $35,000 TOTAL: $60,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hildebrand, R. H. ARC/Cameron, R. M. 11-Astronomy
Harper, D. A. ARC/Gillespie, C. M., Jr.
Stienling, R.

NSG 5068 **University of Chicago** **2073**
High resolution observations of the diffuse lyman alpha sky background
Period *Obligations*
07/01/75-06/30/77 FY76: TOTAL: $8,527
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Parker, E. N. GSFC/Kupperian, J. E. 11-Astronomy

NSG 7212 **University of Chicago** **2074**
Nuclear astrophysics effects in meteoritic and lunar material
Period *Obligations*
03/01/76-02/28/77 FY76: $31,563 TOTAL: $31,563
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Schramm, D. N. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 1150 **University of Illinois - Chicago Circle** **2075**
A kinetic-theory approach to turbulent mixing and combustion
Period *Obligations*
03/01/75-09/30/76 FY76: TOTAL: $42,531
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chung, P. M. LARC/Evans, J. S. 41-Aero Engr

NGL 14-005-140 **University of Illinois - Urbana** **2076**
Research on fluid dynamic and heat transfer problems of modern air breathing propulsive systems
Period *Obligations*
05/23/69-05/31/79 FY76: $65,000 TOTAL: $257,661
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chow, W. L. LERC/Bober, L. J. 41-Aero Engr

NGR 14-005-144 **University of Illinois - Urbana** **2077**
Determination of multiple element airfoil geometries for maximizing lift coefficient
Period *Obligations*
01/30/70-11/30/76 FY76: TOTAL: $209,699
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ormsbee, A. I. LARC/Morgan, H. L., Jr. 41-Aero Engr

NGR 14-005-149 **University of Illinois - Urbana** **2078**
Study of local pressure field in turbulent shear flow and its relation to aerodynamic noise generation
Period *Obligations*
02/10/70-06/30/76 FY76: TOTAL: $195,040
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jones, B. G. LERC/Karchmer, A. M. 41-Aero Engr
LERC/Dorsch, R. G.

NGR 14-005-176 **University of Illinois - Urbana** **2079**
Investigation of the atmosphere of Jupiter by studying the ammonia feature at a wavelength of 1.26 cm
Period *Obligations*
05/22/72-07/31/76 FY76: TOTAL: $28,513
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dickel, J. R. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGR 14-005-181 **University of Illinois - Urbana** **2080**
Rocket studies of the lower ionosphere
Period *Obligations*
08/01/71-07/31/76 FY76: $450,000 TOTAL: $2,124,817
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bowhill, S. A. WFC/Ballance, C. W., Jr.
19-Phys Sci, NEC
WFC/Gray, J. W.

NGR 14-005-193 **University of Illinois - Urbana** **2081**
High intensity combustion and nitrous oxide formation in a turbine engine combustor
Period *Obligations*
06/22/72-06/30/76 FY76: TOTAL: $50,936
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Strehlow, R. A. LERC/Marek, C. J. 41-Aero Engr

NGR 14-005-194 **University of Illinois - Urbana** **2082**
Low noise level general aviation propeller
Period *Obligations*
11/09/72-09/14/76 FY76: $50,000 TOTAL: $192,854
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ormsbee, A. I. LARC/Stickle, J. W. 41-Aero Engr
Sivier, K. R.

ILLINOIS (Continued)

NGR 14-005-200 **University of Illinois - Urbana** **2083**

Studies of discharge mechanisms occurring in high pressure gases with applications to high efficiency, high power lasers

Period	*Obligations*	
04/06/73-05/30/77	FY76: $45,000	TOTAL: $149,860
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Verdeyen, J. T. Cherrington, B. E.	LERC/Dunning, J. W., Jr.	13-Physics

NGR 14-005-202 **University of Illinois - Urbana** **2084**

Implementation of Illiac IV algorithms for multispectral image interpretation

Period	*Obligations*	
02/27/73-01/01/77	FY76: $68,870	TOTAL: $250,524
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Ray, R. M.	ARC/Slye, R. E. ARC/Deerwester, J. M.	21-Mathematics

NGR 14-005-221 **University of Illinois - Urbana** **2085**

Quantitative studies of hair cells and nerve endings in the maculae and cochleae of animals, and in the vestibular and cochlear nuclei

Period	*Obligations*	
01/01/74-10/01/76	FY76: $3,000	TOTAL: $77,957
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Ades, H. W.	ARC/Mehler, W. R.	53-Other Medical

NSG 1063 **University of Illinois - Urbana** **2086**

Nuclear induced plasma kinetics

Period	*Obligations*	
06/01/74-05/31/77	FY76: $27,500	TOTAL: $82,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Milev, G. H.	LARC/Hohl, F.	13-Physics

NSG 1233 **University of Illinois - Urbana** **2087**

Analytical and numerical study of compliant wall structures for skin-friction drag reduction

Period	*Obligations*	
08/01/75-07/31/76	FY76: $31,000	TOTAL: $31,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Lin, Y. K.	LARC/Hefner, J. N.	41-Aero Engr

NSG 1264 **University of Illinois - Urbana** **2088**

Theoretical investigation of response to two dimensional array of panels to convected boundary layer turbulence

Period	*Obligations*	
01/01/76-12/31/76	FY76: $10,062	TOTAL: $10,062
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Lin, Y. K.	LARC/Maestrello, L.	41-Aero Engr

NSG 2099 **University of Illinois - Urbana** **2089**

Neural control of locomotor performance in insects

Period	*Obligations*	
09/01/75-08/31/76	FY76: $29,999	TOTAL: $29,999
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Heath, J. E.	ARC/Williams, B. A.	51-Biology

NSG 2119 **University of Illinois - Urbana** **2090**

Pilot interaction with automated airborne decision making systems

Period	*Obligations*	
11/01/75-08/21/77	FY76: $74,085	TOTAL: $74,085
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Rouse, W. B.	ARC/Wempe, T. E. ARC/Huff, E. M.	99-Multi-Discip

NSG 3008 **University of Illinois - Urbana** **2091**

The analysis of the structure of blast waves from accidental explosions

Period	*Obligations*	
05/10/74-05/31/77	FY76: $45,000	TOTAL: $144,845
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Strehlow, R. A.	LERC/Siewert, R. D.	13-Physics

NSG 3043 **University of Illinois - Urbana** **2092**

The effect of a zero g environment on flammability limits as determined using a standard flammability tube apparatus

Period	*Obligations*	
05/21/75-05/20/77	FY76: $25,000	TOTAL: $50,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Strehlow, R. A.	LERC/Cochran, T. H.	43-Chem Engr

NSG 3056 **University of Illinois - Urbana** **2093**

Explosion, deflagration and fragmentation

Period	*Obligations*	
05/21/75-05/20/76	FY76:	TOTAL: $25,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Strehlow, R. A.	LERC/Siewert, R. D.	49-Engr, NEC

NSG 3098 **University of Illinois - Urbana** **2094**

Transient dynamic analysis of high-speed lightly loaded cylindrical roller bearings

Period	*Obligations*	
06/06/76-06/05/77	FY76: $22,510	TOTAL: $22,510
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Conry, T. F.	LERC/Scribbe, H. W. LERC/Coe, H. H.	46-Mech Engr

NSG 5049 **University of Illinois - Urbana** **2095**

Effects of atmospheric refraction and turbulence on the accuracy of laser systems

Period	*Obligations*	
02/01/75-09/30/76	FY76: $25,000	TOTAL: $49,777
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Gardner, C. S. Rao, N. N.	GSFC/Bufton, J. L. GSFC/Fitzmaurice, M. W.	19-Phys Sci, NEC

NSG 7044 **University of Illinois - Urbana** **2096**

Evolution of the cell and the translation process

Period	*Obligations*	
06/01/74-05/31/76	FY76:	TOTAL: $67,300
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Woese, C. R.	HQ-SB/Young, R. S.	12-Chemistry

ILLINOIS (Continued)

W-14133 **University of Illinois - Urbana** 2097

Conference on The Middle Atmosphere Program (MAP)

Period	Obligations	
06/24/76-04/01/77	FY76: $4,890	TOTAL: $4,890
Prin. Invest.	NASA Tech. Officer	CASE Category
Unavailable	HQ-SU/King, J., Jr.	31-Atmos Sci

INDIANA

NCA 8-101 **Ball State University** 2098

Investigation of Fresnel lens utilization in collecting solar energy for power generation

Period	Obligations	
09/30/74-06/30/75	FY76:	TOTAL: $16,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Cosby, R. M.	MSFC/Hastings, L. J.	13-Physics

NCA 8-103 **Ball State University** 2099

An investigation of Fresnel lens utilization in collecting solar energy for power generation

Period	Obligations	
12/16/74-06/30/75	FY76:	TOTAL: $3,500
Prin. Invest.	NASA Tech. Officer	CASE Category
Cosby, R. M.	MSFC/Hastings, L. J.	13-Physics

NCA 8-121 **Ball State University** 2100

Investigation of cylindrical Fresnel lens as a solar collector

Period	Obligations	
12/10/75-10/09/76	FY76: $22,000	TOTAL: $22,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Cosby, R. M.	MSFC/Hastings, L. J.	49-Engr. NEC

NAS 5-22987 **Indiana University - Bloomington** 2101

Digital techniques applied to surface photometry of low contrast astronomical objects

Period	Obligations	
02/11/76-02/11/77	FY76: $14,848	TOTAL: $14,848
Prin. Invest.	NASA Tech. Officer	CASE Category
Falk, J.	GSFC/Hobbs, R. W. GSFC/Brandt, J. C.	11-Astronomy

NASW 2467 **Indiana University - Bloomington** 2102

Regional information dissemination center

Period	Obligations	
05/14/73-12/31/74	FY76:	TOTAL: $422,202
Prin. Invest.	NASA Tech. Officer	CASE Category
Shriner, H.	HQ-KT/Holley, H. L.	99-Multi-Discip

NASW 2714 **Indiana University - Bloomington** 2103

Operation of a regional dissemination center

Period	Obligations	
10/01/74-09/30/75	FY76: $5,832	TOTAL: $210,250
Prin. Invest.	NASA Tech. Officer	CASE Category
Shriner, H.	HQ-KT/Holley, H. L.	99-Multi-Discip

NASW 2845 **Indiana University - Bloomington** 2104

Operation of a NASA Industrial Applications Center

Period	Obligations	
10/01/75-06/30/76	FY76: $152,200	TOTAL: $152,200
Prin. Invest.	NASA Tech. Officer	CASE Category
Shriner, R. D.	HQ-KT/Bivins, R. G. HQ-KT/Voris, R. M.	99-Multi-Discip

NCA 2-335501 **Indiana University - Bloomington** 2105

Meteorite contribution to the chemistry of organogenic elements

Period	Obligations	
04/01/75-01/31/76	FY76:	TOTAL: $13,500
Prin. Invest.	NASA Tech. Officer	CASE Category
Hayes, J. M.	ARC/Zill, L. P.	12-Chemistry

NCA 2-335601 **Indiana University - Bloomington** 2106

Abundance and isotopic composition of carbon

Period	Obligations	
02/01/76-01/31/77	FY76: $12,875	TOTAL: $12,875
Prin. Invest.	NASA Tech. Officer	CASE Category
Hayes, J. M.	ARC/Zill, L. P.	12-Chemistry

NGL 15-003-002 **Indiana University - Bloomington** 2107

A theoretical investigation of the steady state interaction between radiation and matter in stellar atmospheres

Period	Obligations	
07/17/63-12/31/76	FY76:	TOTAL: $337,477
Prin. Invest.	NASA Tech. Officer	CASE Category
Johnson, H. R.	HQ-SA/Rosendhal, J. D.	11-Astronomy

NGL 15-003-117 **Indiana University - Bloomington** 2108

Study of effects of a stressful or abnormal environment on action of selected therapeutic drugs

Period	Obligations	
05/19/72-04/30/76	FY76:	TOTAL: $165,467
Prin. Invest.	NASA Tech. Officer	CASE Category
Maickel, R. P.	HQ-SB/Vinograd, S. P.	52-Clinical Med

NGR 15-003-007 **Indiana University - Bloomington** 2109

Investigation of neurological correlates of information reception

Period	Obligations	
01/01/65-01/01/76	FY76:	TOTAL: $133,823
Prin. Invest.	NASA Tech. Officer	CASE Category
Neff, W. D.	ARC/Weisoman, N. W.	51-Biology

NGR 15-003-105 **Indiana University - Bloomington** 2110

Lunar sample analysis

Period	Obligations	
01/26/71-01/31/77	FY76: $28,800	TOTAL: $179,483
Prin. Invest.	NASA Tech. Officer	CASE Category
Meinschein, W. G.	JSC/Harris, J. W.	12-Chemistry

NGR 15-003-118 **Indiana University - Bloomington** **2111**

Application of ultra-high sensitivity isotope ratio mass spectrometry to organic geochemistry and cosmochemistry

Period	*Obligations*	
06/20/72-05/31/77	FY76: $76,000	TOTAL $251,966
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hayes, J. M.	HQ-SB/Young, R. S.	32-Geological Sci

NAS 2-7927 **Indiana Univ. - Indianapolis** **2112**

Radiobiological tests on mouse tissue

Period	*Obligations*	
01/01/74-12/31/76	FY76:	TOTAL: $23,621
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zeman, W.	ARC/Haymaker, W. E.	51-Biology

NAS 3-18010 **Purdue University** **2113**

Research on multiple pure tone noise on a supersonic rotor propagating in an acoustically treated duct

Period	*Obligations*	
08/13/73-11/12/75	FY76:	TOTAL: $38,742
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vaidya, P. G.	LERC/Minner, G. L.	41-Aero Engr

NAS 5-20793 **Purdue University** **2114**

Analysis of data for ERTS follow-on investigation

Period	*Obligations*	
03/25/75-01/25/77	FY76:	TOTAL: $120,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bauer, M. E.	GSFC/Stonesifer, G. R.	59-Life Sci, NEC

NAS 5-20922 **Purdue University** **2115**

Support for GSFC remote terminal connecting the Purdue/LARS computer

Period	*Obligations*	
01/01/75-06/30/76	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Phillips, T. L.	GSFC/Pritchard, J. A.	49-Engr, NEC

NAS 5-22816 **Purdue University** **2116**

Utility of correlation techniques on gravity and magnetic interpretation study

Period	*Obligations*	
11/24/75-11/24/76	FY76: $19,995	TOTAL: $19,995
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hinze, W. J. Braile, L. W.	GSFC/Langel, R. A. GSFC/Mead, G. D.	32-Geological Sci

NAS 6-2613 **Purdue University** **2117**

Services in support of LARS remote data terminal

Period	*Obligations*	
01/02/75-07/31/75	FY76: $3,900	TOTAL: $20,111
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Phillips, T. L.	WFC/Maurer, H. E. WFC/Hancock, D. W.	39-Env Sci, NEC

NAS 6-2695 **Purdue University** **2118**

Services in support of a remote LAESYS terminal flight center

Period	*Obligations*	
11/15/75-09/14/76	FY76: $20,835	TOTAL: $20,835
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Phillips, T. L. Schwingendorf, S.	WFC/Maurer, H. E. WFC/Hancock, D. W.	39-Env Sci, NEC

NAS 9-13380 **Purdue University** **2119**

Description and interdisciplinary analysis of multispectral satellite data for selected cover types in Colorado mountains, using ADP techniques

Period	*Obligations*	
04/30/73-06/30/76	FY76:	TOTAL: $215,181
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoffer, R. M.	JSC/Joosten, R. E.	39-Env Sci, NEC

NAS 9-14016 **Purdue University** **2120**

Applications of remote sensing

Period	*Obligations*	
06/01/74-05/31/76	FY76: $1,024,964	TOTAL: $2,790,454
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Landgrebe, D. A.	JSC/Potter, A. E.	39-Env Sci, NEC

NAS 9-14970 **Purdue University** **2121**

Applications research and techniques development for remote sensing

Period	*Obligations*	
06/01/76-05/31/77	FY76: $280,600	TOTAL: $280,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Landgrebe, D. A.	JSC/Grandfield, A. L.	39-Env Sci, NEC

NCA 2-605501 **Purdue University** **2122**

Combined analytical-experimental investigation of short, annular, subsonic diffusers

Period	*Obligations*	
01/21/75-05/31/76	FY76:	TOTAL: $12,308
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smith, C. R.	ARC/Zill, L. P.	41-Aero Engr

NGL 15-005-140 **Purdue University** **2123**

Origin of chondrites from relationships between fourteen key trace elements

Period	*Obligations*	
06/21/71-02/28/78	FY76: $48,000	TOTAL: $305,437
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lipschutz, M. E.	HQ-SL/French, B. M. HQ-SL/Flinn, E. A.	32-Geological Sci

NGL 15-005-175 **Purdue University** **2124**

Lunar sample analysis

Period	*Obligations*	
02/01/73-01/31/76	FY76:	TOTAL: $19,331
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Taylor, L. A.	JSC/Harris, J. W.	13-Physics

NGL 15-005-186 **Purdue University** **2125**
Application of remote sensing technology to solution of problems in management of resources
Period *Obligations*
06/19/73-05/31/79 FY76: $200,000 TOTAL: $995,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Weismiller, R. A. HQ-P/Vitale, J. A. 39-Env Sci, NEC

NGR 15-005-119 **Purdue University** **2126**
Research on lift and viscous cross flow
Period *Obligations*
02/06/70-08/31/76 FY76: TOTAL: $138,729
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Marshall, F. J. LARC/Landrum, E. J. 41-Aero Engr
LARC/Barger, R. L.

NGR 15-005-147 **Purdue University** **2127**
Gas film cooling of turbine blades
Period *Obligations*
05/10/71-07/31/75 FY76: TOTAL: $50,149
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lecuyer, M. R. LERC/Davison, H. W. 41-Aero Engr

NGR 15-005-157 **Purdue University** **2128**
Lunar sample analysis
Period *Obligations*
03/01/72-01/31/77 FY76: $25,000 TOTAL: $101,224
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Meyer, H. O. JSC/Harris, J. W. 13-Physics

NGR 15-005-162 **Purdue University** **2129**
Flow characteristics in aircraft inlets
Period *Obligations*
05/12/72-12/31/75 FY76: TOTAL: $49,973
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hoffman, J. D. LERC/Bishop, A. R. 41-Aero Engr

NGR 15-005-180 **Purdue University** **2130**
Purdue-NASA cooperative program in computer- aided design and computer graphics
Period *Obligations*
05/10/73-06/14/76 FY76: TOTAL: $170,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, D. C. ARC/Gregory, T. J. 49-Engr, NEC
ARC/Carmichael, R. L.

NGR 15-005-191 **Purdue University** **2131**
Calculation of the flow field and the viscous inviscid flow interaction in aircraft inlets
Period *Obligations*
01/01/74-12/31/76 FY76: $31,891 TOTAL: $90,180
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hoffman, J. D. LERC/Bishop, A. R. 41-Aero Engr

NSG 1278 **Purdue University** **2132**
Prediction of strength and its statistical distribution in laminated composites
Period *Obligations*
01/09/76-08/08/76 FY76: $19,880 TOTAL: $19,880
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sun, C. T. LARC/Davidson, J. R. 47-Materials Engr
LARC/Illg, W.

NSG 1293 **Purdue University** **2133**
Noise in turbulent flow
Period *Obligations*
04/01/76-03/31/77 FY76: $22,478 TOTAL: $22,478
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kentzer, C. P. LARC/Pao, S. P. 41-Aero Engr
LARC/Maestrello, L.

NSG 2135 **Purdue University** **2134**
Time-dependent transport of energy in the wall region of the compressible turbulent boundary layer
Period *Obligations*
03/01/76-02/28/77 FY76: $35,477 TOTAL: $35,477
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Abbott, D. E. ARC/Tobak, M. 41-Aero Engr
ARC/Rubesin, M. W.

NSG 2158 **Purdue University** **2135**
Study of rationalization of the airline route structure for greater efficiency, reduced energy consumption and improved service
Period *Obligations*
06/01/76-02/28/77 FY76: $20,790 TOTAL: $20,790
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Drake, J. W. ARC/Williams, L. J. 41-Aero Engr

NSG 3029 **Purdue University** **2136**
Multiple pure tone noise radiation from a supersonic rotor in an acoustically treated duct
Period *Obligations*
08/11/74-02/11/76 FY76: TOTAL: $54,864
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Peterson, A. M. LERC/Feiler, C. E. 46-Mech Engr
Despain, A. M. LERC/Rice, E. J.
Kisner, L. S.

NSG 3071 **Purdue University** **2137**
Gas film cooling of turbine vane surfaces
Period *Obligations*
09/01/75-08/31/78 FY76: $53,067 TOTAL: $53,067
Prin. Invest. *NASA Tech. Officer* *CASE Category*
L'ecuyer, M. R. LERC/Davidson, H. W. 41-Aero Engr

INDIANA (Continued)

NSG 3105 **Purdue University** 2138

Expanding capabilities of NASA computer programs for fluid flow computations in turbomachinery

Period	Obligations	
06/01/76-05/31/79	FY76: $56,131	TOTAL: $56,131
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thompson, H. D. Ragsdell, K. M.	LERC/Katsanis, T.	41-Aero Engr

NSG 4003 **Purdue University** 2139

Handling and ride qualities of large flexible control-configured aircraft

Period	Obligations	
01/01/75-12/31/78	FY76: $80,000	TOTAL: $118,295
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Swaim, R. L.	DFRC/Berry, D. T. DFRC/Cazier, F. W.	41-Aero Engr

NSG 5010 **Purdue University** 2140

Investigations pertaining to encoding of multispectral scanner data

Period	Obligations	
06/15/74-10/14/76	FY76: $29,405	TOTAL: $75,955
Prin. Invest.	*NASA Tech. Officer*	*CASE Categ*
Wintz, P. A.	GSFC/Lynch, T. J.	32-Geological Sc

NSG 7167 **Purdue University** 2141

High-time resolution photometry of flare stars simultaneous with X-ray satellite observations

Period	Obligations	
10/01/75-09/30/76	FY76: $7,095	TOTAL: $7,095
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moffett, T. J.	HQ-SA/Rosendhal, J. D. HQ-SA/Roman, N. G.	11-Astronomy

NSG 1258 **Rose-Hulman Institute of Technology** 2142

Analysis of moving ground plane data

Period	Obligations	
06/01/76-09/30/76	FY76: $3,556	TOTAL: $3,556
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roper, A. T.	LARC/Margason, R. J.	41-Aero Engr

NAS 3-20087 **University of Notre Dame** 2143

Study of burning of liquid pools in reduced gravity

Period	Obligations	
02/23/76-[illegible]/12/77	FY76: $27,898	TOTAL: $27,898
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kanury, M.	LERC/Cochran, T. H.	13-Physics

NSG 1102 **University of Notre Dame** 2144

Passive and active elements of optical integrated circuits

Period	Obligations	
09/23/74-09/22/76	FY76: $25,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Magee, C. J.	LARC/Hendr[illegible] H. D. LARC/Hutchby, J. A.	45-Elec Engr

NSG 3037 **University of Notre Dame** 2145

Influence of blade loading on the acoustic response of a cascade

Period	Obligations	
08/15/74-08/14/77	FY76:	TOTAL: $56,115
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Atassi, H. Berg, D.	LERC/Feiler, C. E. LERC/Goldstein, M. E.	41-Aero Engr

NSG 3048 **University of Notre Dame** 2146

Alternatives for jet engine control

Period	Obligations	
03/01/75-02/28/77	FY76: $30,000	TOTAL: $55,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Leake, R. J. Sain, M. K. Melsa, J. L.	LERC/Lehtinen, B.	45-Elec Engr

NSG 3070 **University of Notre Dame** 2147

Simulation and experimental studies of microwave to dc energy conversion systems

Period	Obligations	
06/01/75-05/31/76	FY76:	TOTAL: $34,301
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nahas, J. J.	LERC/Kish, J. A. LERC/Myers, I. T.	19-Phys Sci, NEC

NSG 5025 **University of Notre Dame** 2148

Coordinated research design of coding and modulation systems

Period	Obligations	
09/01/74-11/30/76	FY76: $24,000	TOTAL: $57,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Massey, J. L.	GSFC/Lynch, T. J. GSFC/Poland, W. B., Jr.	45-Elec Engr

IOWA

NCA 2-340405 **Iowa State University** 2149

Contraction and accretion models of Jupiter and Saturn

Period	Obligations	
06/01/74-05/31/75	FY76:	TOTAL: $1,245
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grossman, A. S.	ARC/Zill, L. P.	19-Phys Sci, NEC

NCA 2-340406 **Iowa State University** 2150

Continued study of shock tube flow over airfoils

Period	Obligations	
06/01/74-03/31/75	FY76:	TOTAL: $500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cook, W. J.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-340501 **Iowa State University** **2151**
Simulation of the eolian modification of Martian craters

Period	*Obligations*	
09/01/74-08/31/75	FY76:	TOTAL: $11,102
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Iversen, J. D.	ARC/Zill, L. P.	32-Geological Sci

NCA 2-340502 **Iowa State University** **2152**
A study on parameter identifiability and accuracy of parameter estimates

Period	*Obligations*	
09/01/74-01/01/76	FY76:	TOTAL: $10,501
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Herget, C. J.	ARC/Zill, L. P.	21-Mathematics

NCA 2-340503 **Iowa State University** **2153**
Computation of cone field flows at large angles of attack

Period	*Obligations*	
03/01/75-02/28/76	FY76:	TOTAL: $10,750
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, D. A.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-340504 **Iowa State University** **2154**
Theoretical models of Jupiter, Saturn, and the atmospheres of carbon stars

Period	*Obligations*	
06/01/75-10/29/75	FY76: $715	TOTAL: $5,815
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grossman, A. S.	ARC/Zill, L. P.	31-Atmos Sci

NCA 2-340505 **Iowa State University** **2155**
Viscous corner flow studies

Period	*Obligations*	
03/01/75-03/31/76	FY76:	TOTAL: $15,412
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, D. A.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-340506 **Iowa State University** **2156**
Investigation of the use of shock tubes in transonic testing

Period	*Obligations*	
04/01/75-01/31/76	FY76:	TOTAL: $15,145
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cook, W. J.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-340601 **Iowa State University** **2157**
Simulation of the eolian modification of Martian craters

Period	*Obligations*	
09/01/75-08/31/76	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Iversen, J. D.	ARC/Zill, L. P.	32-Geological Sci

NCA 2-340602 **Iowa State University** **2158**
Theoretical studies of Jupiter, Saturn, and the atmospheres of carbon stars

Period	*Obligations*	
10/30/75-10/29/76	FY76: $6,865	TOTAL: $6,865
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grossman, A. S.	ARC/Zill, L. P.	11-Astronomy

NCA 2-340603 **Iowa State University** **2159**
Conical flow fields at large angles of attack

Period	*Obligations*	
04/01/76-03/31/77	FY76: $13,303	TOTAL: $13,303
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Levenson, L. L.	ARC/Zill, L. P.	13-Physics

NCA 2-340604 **Iowa State University** **2160**
Shock diffraction studies

Period	*Obligations*	
04/01/76-03/31/77	FY76: $12,900	TOTAL: $12,900
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, D. A.	ARC/Zill, L. P.	13-Physics

NGR 16-002-038 **Iowa State University** **2161**
Calculation of viscous compressible flow

Period	*Obligations*	
10/07/71-12/31/76	FY76: $21,242	TOTAL: $91,799
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tannehill, J. C. Holst, T. L.	ARC/Rakich, J. V. ARC/Marvin, J. G.	41-Aero Engr

NSG 2040 **Iowa State University** **2162**
Role of turbulence in vortex wake decay

Period	*Obligations*	
09/01/74-11/30/76	FY76: $38,963	TOTAL: $78,918
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Iversen, J. D.	ARC/Rossow, V. J. ARC/Corsiglia, V. R.	41-Aero Engr

NSG 2091 **Iowa State University** **2163**
Study of viscous cross-flow effects on cylinders at high Reynolds numbers

Period	*Obligations*	
07/01/75-01/01/77	FY76:	TOTAL: $34,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
James, W. D.	ARC/Chapman, G. T. ARC/Malcolm, G. N.	41-Aero Engr

NSG 2150 **Iowa State University** **2164**
A study on parameter identifiability and accuracy of system models

Period	*Obligations*	
04/01/76-06/30/77	FY76: $19,883	TOTAL: $19,883
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Herget, C. J.	ARC/Chapman, G. T. ARC/Malcolm, G. N.	41-Aero Engr

IOWA (Continued)

NSG 2152 **Iowa State University** 2165
High Reynolds number transonic airfoil testing in shock tubes

Period	*Obligations*	
04/01/76-03/31/77	FY76: $20,192	TOTAL: $20,192
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cook, W. J.	ARC/Presley, L. L. ARC/Chapman, G. T.	41-Aero Engr

NSG 3033 **Iowa State University** 2166
Blade surface boundary layer and wake computation model study

Period	*Obligations*	
09/01/74-08/31/77	FY76:	TOTAL: $44,493
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Serovy, G. K.	LERC/Sockol, P. M.	41-Aero Engr

NAS 1-13129 **University of Iowa** 2167
Hawkeye/neutral point Explorer experiments

Period	*Obligations*	
05/20/74-08/03/76	FY76: $263,000	TOTAL: $1,008,617
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Van Allen, J. A. Frank, L. A. Gurnett, D. A.	LARC/Coffee, C. W., Jr.	13-Physics

NAS 2-6553 **University of Iowa** 2168
Pioneer F/G data analysis-Jovian charged particles experiment

Period	*Obligations*	
07/21/71-06/30/76	FY76: $97,657	TOTAL: $438,082
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Van Allen, J. A.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 5-11064 **University of Iowa** 2169
Low energy electrons and protons experiment for IMP-H & J

Period	*Obligations*	
05/31/68-12/31/76	FY76:	TOTAL: $736,656
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frank, L. A.	GSFC/Davis, M. A.	13-Physics

NAS 5-11167 **University of Iowa** 2170
Ac electric fields experiment for S3A

Period	*Obligations*	
09/25/68-06/30/75	FY76:	TOTAL: $316,202
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gurnett, D. A.	GSFC/Denwiddie, M.	13-Physics

NAS 5-11265 **University of Iowa** 2171
UK-4 low energy proton and electron differential energy analyzer experiment

Period	*Obligations*	
01/30/70-12/31/75	FY76: $29,182	TOTAL: $482,494
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Craven, J. D. Frank, L. A.	GSFC/Eaker, H. L.	13-Physics

NAS 5-11279 **University of Iowa** 2172
Solar wind plasma wave experiment for the Helios missions

Period	*Obligations*	
03/30/70-02/01/79	FY76: $125,000	TOTAL: $1,210,645
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gurnett, D. A.	GSFC/White, C. E.	11-Astronomy

NAS 5-11431 **University of Iowa** 2173
Ac electric and magnetic fields experiment

Period	*Obligations*	
05/21/71-10/31/76	FY76: $10,461	TOTAL: $548,387
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gurnett, D. A.	GSFC/Davis, M. A.	31-Atmos Sci

NAS 5-20093 **University of Iowa** 2174
Plasma wave experiment for International Sun-Earth Explorer spacecraft A and B

Period	*Obligations*	
05/20/74-07/30/80	FY76: $688,000	TOTAL: $1,001,477
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gurnett, D. A.	GSFC/Davis, M. A.	13-Physics

NAS 5-20094 **University of Iowa** 2175
Magnetospheric and interplanetary plasma for International Sun-Earth Explorer mother & daughter spacecraft

Period	*Obligations*	
05/20/74-10/31/79	FY76: $344,000	TOTAL: $656,642
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frank, L. A.	GSFC/Davis, M. A.	13-Physics

NAS 5-20539 **University of Iowa** 2176
Spacecraft control and telemetry station operations

Period	*Obligations*	
06/03/74-08/02/76	FY76: $349,995	TOTAL: $801,452
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Van Allen, J. A. Frank, L. A. Gurnett, D. A.	GSFC/Allen, R. F., Jr. GSFC/Sanford, R. G.	11-Astronomy

NAS 9-13313 **University of Iowa** 2177
Investigation of Skylab data EREP No. 393

Period	*Obligations*	
03/09/73-09/30/76	FY76: $4,522	TOTAL: $38,522
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoppin, R. A.	JSC/Amsbury, D. L.	32-Geological Sci

NGL 16-001-002 **University of Iowa** 2178
Theoretical & experimental studies related to particles & fields associated with major bodies of solar system & with interplanetary space

Period	*Obligations*	
05/23/62-11/30/78	FY76: $240,037	TOTAL: $4,574,233
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Van Allen, J. A.	HQ-ST/Taylor, W. W. HQ-ST/Schmerling, E. R.	13-Physics

IOWA (Continued)

NGL 16-001-043 **University of Iowa** **2179**
Waves in plasmas

Period	*Obligations*	
03/28/67-11/30/78	FY76: $55,000	TOTAL: $687,986
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Montgomery, D. C.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

KANSAS

NAS 9-14533 **Kansas State University** **2180**
Prediction of wheat yield

Period	*Obligations*	
02/15/75-03/31/77	FY76: $99,000	TOTAL: $179,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Feyerherm, A. M.	JSC/Barnett, T. L.	39-Env Sci, NEC

NAS 9-14899 **Kansas State University** **2181**
Estimated winter wheat yield from crop growth predicted by LANDSAT

Period	*Obligations*	
03/15/76-03/31/77	FY76: $44,900	TOTAL: $44,900
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kanemasu, E. T.	JSC/Barnett, T. L.	31-Atmos Sci

NCA 2-363501 **Kansas State University** **2182**
Image enhancement and classification techniques

Period	*Obligations*	
06/06/75-12/31/75	FY76:	TOTAL: $4,990
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ahmed, N. Natarajan, T.	ARC/Zill, L. P.	45-Elec Engr

NCA 2-363601 **Kansas State University** **2183**
Adaptive transform processing of multispectral data

Period	*Obligations*	
12/01/75-07/31/76	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ahmed, N.	ARC/Zill, L. P.	39-Env Sci, NEC

NGL 17-001-026 **Kansas State University** **2184**
Infrared laboratory studies of synthetic planetary atmospheres

Period	*Obligations*	
01/10/67-11/30/77	FY76: $25,000	TOTAL: $252,554
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Williams, D.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NSG 5101 **Kansas State University** **2185**
Research of solar insolation at the earth surface from cloud cover

Period	*Obligations*	
03/01/76-08/31/77	FY76: $24,972	TOTAL: $24,972
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kanemasu, E. T.	GSFC/Salomonson, V. V. GSFC/Ormsby, J. P.	31-Atmos Sci

NAS 1-12976 **University of Kansas** **2186**
Compressible vortex flow characteristics

Period	*Obligations*	
07/01/74-07/15/77	FY76:	TOTAL: $39,395
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Muirhead, V. U.	LARC/Ward, J. F.	41-Aero Engr

NAS 4-2148 **University of Kansas** **2187**
Flight test program of an attitude command control system and report of findings

Period	*Obligations*	
02/01/74-06/01/76	FY76: $266,491	TOTAL: $883,491
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roskam, J.	DFRC/Gee, S. W.	41-Aero Engr

NAS 5-20943 **University of Kansas** **2188**
Analysis of data for ERTS follow-on investigation

Period	*Obligations*	
03/10/75-01/10/77	FY76:	TOTAL: $52,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Haralick, R. M.	GSFC/Broderick, J. C.	32-Geological Sci

NAS 5-22325 **University of Kansas** **2189**
Earth observation radar concept study

Period	*Obligations*	
04/18/75-06/14/77	FY76: $15,000	TOTAL: $45,395
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moore, R. K.	GSFC/Eckerman, J.	32-Geological Sci

NAS 5-22384 **University of Kansas** **2190**
Water resource study

Period	*Obligations*	
05/19/75-07/15/76	FY76:	TOTAL: $26,427
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moore, R. K.	GSFC/Shiue, J. C.	39-Env Sci, NEC

NAS 9-10261 **University of Kansas** **2191**
Radar systems studies

Period	*Obligations*	
01/12/70-07/31/76	FY76: $204,495	TOTAL: $1,299,942
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ulaby, F. T.	JSC/Hatcher, N. M.	39-Env Sci, NEC

NAS 9-14052 University of Kansas 2192
Joint soil moisture experiment

Period	*Obligations*	
04/01/74-03/31/77	FY76: $99,400	TOTAL: $191,643
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ulaby, F. T.	JSC/Buras, N. T.	39-Env Sci, NEC

NAS 9-14453 University of Kansas 2193
Development of textural/spatial pattern recognition techniques

Period	*Obligations*	
12/15/74-04/12/76	FY76:	TOTAL: $49,982
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Haralick, R. M.	JSC/Patteson, A. W. JSC	39-Env Sci, NEC

NGL 17-004-024 University of Kansas 2194
Research on the applications of satellite remote sensing

Period	*Obligations*	
04/06/72-03/31/79	FY76: $100,001	TOTAL: $600,001
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barr, B. G.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 17-002-072 University of Kansas 2195
Advanced technology applications for general aviation aircraft

Period	*Obligations*	
10/14/69-09/16/77	FY76: $3,150	TOTAL: $912,430
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kohlman, D. L.	LARC/Crane, H. L.	41-Aero Engr

NGR 17-002-106 University of Kansas 2196
Possible contemporaneous climate changes on Earth and Mars determined by Martian statistical geomorphology

Period	*Obligations*	
08/30/72-05/31/76	FY76:	TOTAL: $6,300
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Warnke, D. E.	HQ-SL/Dwornik, S. E.	32-Geological Sci

NGR 17-004-027 University of Kansas 2197
An experimental investigation of lightning damage to selected composite materials and associated protective systems

Period	*Obligations*	
05/18/72-12/31/76	FY76: $26,859	TOTAL: $76,076
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lenzen, K. H. Lorenz, S. A.	LARC/Pride, R. A. LARC/Davis, J. G., Jr.	41-Aero Engr

NSG 1046 University of Kansas 2198
Effects of aeroelasticity on control effectiveness

Period	*Obligations*	
06/10/74-11/15/76	FY76: $3[illegible]	TOTAL: $59,972
Prin. Invest.	*NASA Tech. [illegible]*	*CASE Category*
Roskam, J. Mehrotra, S.	LARC/Lar[illegible] J. E. LARC/P[illegible]amus, E. C.	41-Aero Engr

NSG 1122 University of Kansas 2199
Measuring mode shapes of vibrating, rotating helicopter blades

Period	*Obligations*	
11/13/74-07/31/76	FY76: $20,796	TOTAL: $41,268
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lenzen, K. H. Reese, C. D.	LARC/Naumann, E. C.	41-Aero Engr

NSG 1139 University of Kansas 2200
Further applications of a wing-jet interaction theory

Period	*Obligations*	
01/01/75-12/31/76	FY76: $28,239	TOTAL: $55,551
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lan, C. E.	LARC/Campbell, J. F.	41-Aero Engr

NSG 1142 University of Kansas 2201
An analysis of infinite arrays for large microstrip antenna design

Period	*Obligations*	
06/01/75-12/31/76	FY76: $10,354	TOTAL: $30,215
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Biggs, A. W. Parks, F. G.	LARC/Bailey, M. C. LARC/Croswell, W. F.	45-Elec Engr

NSG 1227 University of Kansas 2202
Flight test evaluation of a spoiler roll control system on a twin-engine light airplane

Period	*Obligations*	
09/17/75-08/16/76	FY76: $33,745	TOTAL: $33,745
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kohlman, D. L.	LARC/Crane, H. L.	41-Aero Engr

NSG 1269 University of Kansas 2203
Methods for the prediction of primary creep behavior in metals

Period	*Obligations*	
01/01/76-12/31/76	FY76: $32,105	TOTAL: $32,105
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zerwekh, R. P.	LARC/Rummler, D. R. LARC/Stein, B. A.	47-Materials Engr

NSG 12[illegible]1 University of Kansas 2204
Statistical distribution of mechanical properties of graphite-epoxies

Period	*Obligations*	
07/15/76-07/14/77	FY76: $15,088	TOTAL: $15,088
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reesie, C. D.	LARC/Howell, W. E. LARC/Pride, R. A.	47-Materials Engr

NSG 1301 University of Kansas 2205
Reduction of interior noise in general aviation airplanes

Period	*Obligations*	
05/01/76-04/30/77	FY76: $29,914	TOTAL: $29,914
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roskam, J. Kohlman, D. L. Irhead, M. U.	LARC/Stephens, D. G. LARC/Cawthorn, J. M.	41-Aero Engr

NSG 1302 **University of Kansas** **2206**

A parametric investigation of aerodynamic performance for upper-surface-blowing and over-wing blowing configurations

Period	*Obligations*	
06/16/76-06/15/77	FY76: $19,242	TOTAL: $19,242
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lan, C. E. Fillman, G.	LARC/Campbell, J. F.	41-Aero Engr

NSG 1310 **University of Kansas** **2207**

Counting techniques for red tide and coliform organisms

Period	*Obligations*	
06/07/76-08/21/76	FY76: $5,369	TOTAL: $5,369
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lenzen, K. H.	LARC/Pritchard, E. B.	44-Civil Engr

NSG 2145 **University of Kansas** **2208**

A study of airplane design optimization

Period	*Obligations*	
05/16/76-12/15/76	FY76: $32,590	TOTAL: $32,590
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roskam, J.	ARC/Galloway, T. L.	41-Aero Engr

NSG 3087 **University of Kansas** **2209**

Portable solar energy collector test unit

Period	*Obligations*	
11/15/75-11/14/76	FY76: $21,310	TOTAL: $21,310
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lenzen, K. H. Hotchkiss, G. B.	LERC/Couch, J. P.	46-Mech Engr

NSG 4004 **University of Kansas** **2210**

Ground vehicles

Period	*Obligations*	
01/16/75-06/16/76	FY76:	TOTAL: $18,460
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Muirhead, V. U.	DFRC/Horton, V. W. DFRC/Saltzman, E. J.	49-Engr, NEC

NSG 4006 **University of Kansas** **2211**

Structural analyses of ultra-high speed aircraft structural components

Period	*Obligations*	
05/01/75-01/15/78	FY76:	TOTAL: $35,864
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lenzen, K. H. Siegel, W.	DFRC/Fields, R. A. DFRC/Jenkins, J. M.	41-Aero Engr

NSG 4007 **University of Kansas** **2212**

Modification and testing of a remotely augmented vehicle system

Period	*Obligations*	
07/01/75-06/30/77	FY76:	TOTAL: $41,486
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roskam, J. Grose, D.	ARC/Zill, L. P.	41-Aero Engr

NSG 4008 **University of Kansas** **2213**

Analysis of structural components for ultra high speed aircraft

Period	*Obligations*	
05/01/76-04/30/78	FY76: $40,416	TOTAL: $40,416
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lenzen, K. H.	DFRC/Jenkins, J. M.	41-Aero Engr

NSG 4009 **University of Kansas** **2214**

An investigation of drag reduction for tractor trailer vehicles

Period	*Obligations*	
07/01/76-06/30/77	FY76: $9,052	TOTAL: $9,052
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Muirhead, V. U.	DFRC/Saltzman, E. J.	49-Engr, NEC

NSG 5086 **University of Kansas** **2215**

Internal structure of thunderstorms

Period	*Obligations*	
12/01/75-11/30/76	FY76: $20,376	TOTAL: $20,376
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Eagleman, J. R.	GSFC/Wexler, R.	31-Atmos Sci

NGR 17-003-018 **Wichita State University** **2216**

Numerical methods for the investigation of transmission and attenuation of sound in acoustically treated ducts

Period	*Obligations*	
07/24/72-09/01/75	FY76:	TOTAL: $49,420
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Eversman, W.	LERC/Rice, E. J.	13-Physics

NGR 17-003-021 **Wichita State University** **2217**

Experimental studies of flow separation and stalling on two-dimensional airfoils at low speeds, phase I

Period	*Obligations*	
12/01/73-08/31/76	FY76:	TOTAL: $86,900
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wentz, W. H., Jr. Seetharam, H. C.	LARC/Noonan, K. W. LARC/McGhee, R. J.	41-Aero Engr

NSG 1165 **Wichita State University** **2218**

Computer and wind tunnel development of flaps and control surfaces for advanced technology general aviation airfoils

Period	*Obligations*	
06/01/75-08/31/76	FY76:	TOTAL: $83,724
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wentz, W. H., Jr. Seetharam, H. C.	LARC/McGhee, R. J. LARC/Crane, H. L.	41-Aero Engr

NSG 1189 **Wichita State University** **2219**

Development of capabilities for stall/spin research

Period	*Obligations*	
06/01/75-06/30/76	FY76:	TOTAL: $14,833
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Craig, A. J.	LARC/Bowman, J. S., Jr.	41-Aero Engr

KANSAS (Continued)

NSG 1192 **Wichita State University** 2220
Analytical model for separated flow on wings
Period *Obligations*
06/01/75-07/31/76 FY76: TOTAL: $29,358
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Zumwalt, G. W. LARC/Morgan, H. L., Jr. 41-Aero Engr
Seetharam, H. C. LARC/Pierpont, P. K.

NSG 2134 **Wichita State University** 2221
Wind tunnel investigations of computer designed airfoil section modifications
Period *Obligations*
02/01/76-01/31/77 FY76: $10,163 TOTAL: $10,163
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wentz, W. H., Jr. ARC/Hicks, R. M. 41-Aero Engr

KENTUCKY

NSG 801 **Kentucky State University** 2222
Zoological effects of variations in atmospheric oxygen levels
Period *Obligations*
02/27/74-04/30/77 FY76: $41,214 TOTAL: $98,940
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kloek, G. KSC/Morrison, J. D. 59-Life Sci, NEC

NSG 8008 **Kentucky State University** 2223
Synthesis of organosiloxy transition metal polymers
Period *Obligations*
04/15/74-04/14/75 FY76: TOTAL: $21,981
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Marano, G. A. MSFC/Patterson, W. J. 12-Chemistry
MSFC/Kent, M. I.

NAS 2-8883 **University of Kentucky** 2224
Design, fabrication, testing and installation of oscillating platform
Period *Obligations*
06/02/75-12/31/76 FY76: $48,623 TOTAL: $88,623
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Knapp, C. E. ARC/McCutcheon, E. P. 46-Mech Engr

NAS 8-31006 **University of Kentucky** 2225
Remote sensing of effects of land use practices on water quality
Period *Obligations*
10/11/74-12/31/76 FY76: TOTAL: $40,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Graves, D. H. MSFC/Palupan, C. T. 39-Env Sci, NEC
MSFC/Downs, S. W., Jr.

NAS 9-14392 **University of Kentucky** 2226
Limb volume measuring system studies
Period *Obligations*
10/01/74-09/30/76 FY76: $14,855 TOTAL: $44,836
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lafferty, J. F. JSC/Jackson, M. M. 46-Mech Engr

NGL 18-001-042 **University of Kentucky** 2227
Investigation of the role of ion impurities in mechanical failures
Period *Obligations*
04/18/69-05/31/76 FY76: TOTAL: $80,304
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Leipold, M. H. LERC/Sanders, W. A. 47-Materials Engr

NGR 18-001-058 **University of Kentucky** 2228
Lunar sample analysis
Period *Obligations*
01/12/71-01/31/77 FY76: $30,000 TOTAL: $184,012
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ehmann, W. D. JSC/Harris, J. W. 13-Physics

NGR 18-001-083 **University of Kentucky** 2229
Effects of elevated gravity upon gas flames
Period *Obligations*
08/01/73-09/30/76 FY76: TOTAL: $19,989
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hsu, N. N. LERC/Haggard, J. B., Jr. 13-Physics
Eichhorn, R.

NGR 18-001-086 **University of Kentucky** 2230
Evaluation of multistep thermal process for production of hydrogen from water
Period *Obligations*
03/29/73-02/29/76 FY76: TOTAL: $114,935
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Conger, W. L. LERC/Gordon, S. 12-Chemistry
Funk, J. E.

NSG 1273 **University of Kentucky** 2231
Development of a global pollution model for Ch4 and CO
Period *Obligations*
02/15/76-08/14/77 FY76: $8,279 TOTAL: $8,279
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Peters, L. K. LARC/Reichle, H. G., Jr. 31-Atmos Sci

NSG 3013 **University of Kentucky** 2232
Fracture toughness testing of berylium
Period *Obligations*
07/01/74-06/30/77 FY76: TOTAL: $20,727
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Conrad, H. LERC/Brown, W. F., Jr.
47-Materials Engr
Sargent, G. A. LERC/Jones, M. H.

NAS 8-31233 **University of Louisville** 2233
Turbopump technology improvements via transient rotordynamics analysis
Period *Obligations*
11/14/74-02/01/77 FY76: $24,000 TOTAL: $44,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Childs, D. W. MSFC/Gross, L. A. 42-Astro Engr
MSFC/Pitsenberger, F. D.

KENTUCKY (Continued)

NAS 9-14632 **University of Louisville** **2234**
ASTP/Cosmos fundulus embryo development experiment
Period *Obligations*
04/14/75-08/15/77 FY76: $58,000 TOTAL: $133,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Keefe, J. R. JSC/Hoffman, R. A. 51-Biology

NSG 1220 **University of Louisville** **2235**
Effects of overt emotionality on reactions to aircraft noise
Period *Obligations*
08/01/75-09/30/76 FY76: $62,876 TOTAL: $62,876
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Loeb, M. LARC/Mayes, W. H. 69-Psych, NEC
Repko, J. D.

NSG 2067 **University of Louisville** **2236**
The efferent component of the vestibular nerve in the bullfrog
Period *Obligations*
02/15/75-02/28/77 FY76: $4,000 TOTAL: $11,432
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fuller, P. M. ARC/Mehler, W. R. 51-Biology
Prior, D. J.

LOUISIANA

NSG 8018 **Dillard University** **2237**
Vegetation types and conditions as revealed by aerial infrared photography
Period *Obligations*
09/01/74-09/01/75 FY76: TOTAL: $24,180
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rogers, R. MSFC/Paludan, C. T. 39-Env Sci, NEC
Roussell, N. MSFC/Kent, M. I.

NGR 19-011-007 **Grambling State University** **2238**
Study of low frequency hydromagnetic waves using ATS-1 data
Period *Obligations*
11/30/70-06/30/76 FY76: TOTAL: $66,695
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cummings, W. D. HQ-ST/Cauffman, D. P. 13-Physics

NGR 19-011-012 **Grambling State University** **2239**
Theoretical investigation of isotopic anomaly of xenon in carbonaceous chondrites
Period *Obligations*
04/24/72-02/28/77 FY76: $8,780 TOTAL: $42,320
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sabu, D. D. JSC/Bogard, D. D. 43-Chem Engr
HQ-P/Pohly, J. G.

NGR 19-011-016 **Grambling State University** **2240**
Distribution of extra-ionic semimetallic environments by nuclear quadrupole resonance techniques
Period *Obligations*
11/14/72-12/31/76 FY76: $18,827 TOTAL: $68,364
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Murty, A. N. MSFC/Kroes, R. L. 13-Physics
MSFC/Kent, M. I.

NSG 8034 **Grambling State University** **2241**
Study of ultra low frequency oscillations at the synchronous orbit using data from ATS-6, SMS-1, and SMS-2
Period *Obligations*
12/01/75-06/30/77 FY76: $29,680 TOTAL: $29,680
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cummings, W. D. MSFC/Chappell, C. R. 13-Physics

NAS 5-20883 **Louisiana State University - Baton Rouge** **2242**
High energy cosmic ray ionization spectrometer computer simulations
Period *Obligations*
11/19/74-06/30/76 FY76: TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Huggett, R. W. GSFC/Ormes, J. F. 13-Physics

NAS 8-30380 **Louisiana State University - Baton Rouge** **2243**
Development of a three-dimensional time-dependent flow field model
Period *Obligations*
01/14/74-03/08/76 FY76: TOTAL: $50,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Farmer, R. C. MSFC/Hamby, H. G. 13-Physics
Waldrop, W. R. MSFC/Wilson, H. B.

NAS 8-30620 **Louisiana State University - Baton Rouge** **2244**
Investigation of land-use spectral signatures
Period *Obligations*
03/25/74-03/24/75 FY76: TOTAL: $9,173
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Maples, D. MSFC/Paludan, C. T. 39-Env Sci, NEC
MSFC/Espy, P. N.

NAS13-38 **Louisiana State University - Baton Rouge** **2245**
Study of feeding value in water hyacinths
Period *Obligations*
06/22/76-07/25/77 FY76: $20,000 TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wolverton, V. C. NSTL/Rusoff, L. L. 59-Life Sci, NEC

NGL 19-001-097 **Louisiana State University - Baton Rouge** **2246**
Interdisciplinary program in earth resource and environmental research
Period *Obligations*
05/17/71-08/01/74 FY76: TOTAL: $50,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Whitehurst, C. A. HQ-P/Redding, E. R. 39-Env Sci, NEC
MSFC/Kent, M. I.

NGL 19-001-105 Louisiana State University - Baton Rouge 2247
Interpretation of remote sensing data in the Bayou la Fourche region of south Louisiana

Period	*Obligations*	
04/06/72-05/31/79	FY76: $75,000	TOTAL: $425,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Whitehurst, C. A.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 19-001-012 Louisiana State University - Baton Rouge 2248
Cosmic ray investigations utilizing an emulsion chamber-calorimeter combination

Period	*Obligations*	
03/10/66-08/31/75	FY76:	TOTAL: $1,127,557
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Huggett, R. W.	HQ-SA/Opp, A. G. HQ-ST/Schmerling, E. R.	11-Astronomy

NAS 9-9317 Louisiana State University - Shreveport 2249
Study of modulatory effects of solar wind in galactic cosmic rays

Period	*Obligations*	
04/07/69-06/30/77	FY76:	TOTAL: $30,160
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moss, T. A.	JSC/Giuli, R. T.	11-Astronomy

NGR 19-005-003 Southern University - Baton Rouge 2250
Experimental and theoretical study on noneqilibrium and unsteady phenomena in supersonic gas dynamics

Period	*Obligations*	
01/20/71-09/01/76	FY76:	TOTAL: $75,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liu, K. H. Butler, J. L.	MSFC/Kent, M. I.	19-Phys Sci, NEC

NGR 19-005-006 Southern University - Baton Rouge 2251
Research in the many-particle theory of nuclear systems with application to neutron star matter

Period	*Obligations*	
10/17/72-01/31/77	FY76: $16,172	TOTAL: $70,975
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chakkalakal, D. A. Yang, C. H.	JPL/Estabrook, F. B.	11-Astronomy

NGT 19-005-750 Southern University - Baton Rouge 2252
Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/75-05/30/77	FY76: $14,000	TOTAL: $28,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Burrell, M. Q.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	49-Engr, NEC

NSG 2041 Southern University - Baton Rouge 2253
Analytical model for the dynamic stress and deformation studies in the left ventricle

Period	*Obligations*	
08/19/74-04/30/77	FY76: $25,557	TOTAL: $49,301
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ray, G.	ARC/Sandler, H.	59-Life Sci, NEC

NSG 8016 Southern University - Baton Rouge 2254
Radiative property investigation

Period	*Obligations*	
06/25/74-06/25/75	FY76:	TOTAL: $18,424
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Scott, R. L., Jr.	MSFC/Trenkle, J. J.	13-Physics

NSG 8025 Southern University - Baton Rouge 2255
Inhibitor analysis for a solar heating and cooling system

Period	*Obligations*	
01/02/75-02/01/77	FY76: $23,982	TOTAL: $47,072
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frederick, D. K. Shen, C. N. Razunis, Y. E.	MSFC/Williamson, J. G. MSFC/Kent, M. I.	46-Mech Engr

NSG 8028 Southern University - Baton Rouge 2256
Theoretical model for a single particle echo signature using light scattering theory

Period	*Obligations*	
10/15/75-10/14/76	FY76: $20,393	TOTAL: $20,393
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Anderson, J. A.	MSFC/Trenkle, J. J. MSFC/Kent, M. I.	45-Elec Engr

NSG 8029 Southern University - Baton Rouge 2257
Determination of particle size using measurements of scatter

Period	*Obligations*	
10/15/75-10/14/76	FY76: $19,900	TOTAL: $19,900
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Scott, R. L., Jr.	MSFC/Trenkle, J. J. MSFC/Kent, M. I.	46-Mech Engr

NSG 9030 Southern University - Baton Rouge 2258
State vector update filter for autoland portion of the shuttle landing

Period	*Obligations*	
09/01/75-08/31/76	FY76:	TOTAL: $22,100
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grewal, G. S.	JSC/Echelkamp, R. E.	45-Elec Engr

NCA 2-800402 Tulane University 2259
Localization and histo-chemical characterization of the central emetic apparatus related to motion sickness

Period	*Obligations*	
01/01/74-12/31/74	FY76:	TOTAL: $610
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brizzee, K. R.	ARC/Zill, L. P.	51-Biology

NCA 2-800501 Tulane University 2260
Studies on localization and histochemical characterization of central emetic apparatus related to motion sickness

Period	*Obligations*	
01/01/75-12/31/75	FY76: $2,000	TOTAL: $11,992
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brizzee, K. R.	ARC/Zill, L. P.	53-Other Medical

NASA'S UNIVERSITY PROGRAM

LOUISIANA (Continued)

NGL 19-002-027 **Tulane University** **2261**
Electronic transport properties of molecular crystals
Period *Obligations*
02/17/69-01/31/76 FY76: TOTAL: $122,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Hermann, A. M. HQ-RW/Gangler, J. J. 13-Physics
JPL/Rembaum, A.

NGR 19-002-030 **Tulane University** **2262**
Determination of the intensity of turbulence in liquid rocket combustion chamber
Period *Obligations*
12/31/69-12/31/75 FY76: TOTAL: $137,780
Prin. Invest. *NASA Tech Officer* *CASE Category*
O'Hara, J. C. LERC/Priem, R. J. 41-Aero Engr

NGR 19-002-038 **Tulane University** **2263**
Geologic mapping of a quadrangle on Mars based on Mariner 9 photographs
Period *Obligations*
02/04/72-06/30/75 FY76: TOTAL: $21,992
Prin. Invest. *NASA Tech Officer* *CASE Category*
Meyer, J. D. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NSG 2139 **Tulane University** **2264**
Localization and ultrastructural histochemical characterization of the central emetic apparatus related to motion sickness and emetic drugs in the squirrel monkey and dog
Period *Obligations*
03/01/76-02/28/77 FY76: $39,902 TOTAL: $39,902
Prin. Invest. *NASA Tech Officer* *CASE Category*
Brizzee, K. R. ARC/Mehler, W. R. 53-Other Medical
Yates, R. D. ARC/Daunton, N. G.

NSG 3049 **University of Southwestern Louisiana** **2265**
Population inversion in charge exchange collisions
Period *Obligations*
03/01/75-02/28/77 FY76: $6,372 TOTAL: $11,454
Prin. Invest. *NASA Tech Officer* *CASE Category*
Matese, J. J. LERC/Chubb, D. L. 13-Physics
LERC/Michels, C. J.

NGR 19-007-004 **Xavier University - Louisiana** **2266**
The correlation of the 24 hour pattern of rat plasma and adrenal corticosterone with the diurnal variations of certain tissue constituents involved in carbohydrate metabolism
Period *Obligations*
05/07/73-06/30/77 FY76: TOTAL: $104,438
Prin. Invest. *NASA Tech Officer* *CASE Category*
Ashman, P. U. ARC/Winget, C. M. 51-Biology
ARC/Danellis, J. V.

NSG 1218 **Xavier University - Louisiana** **2267**
The effective transmission function and distortion of kinetic energy distributions by the 127 cylindrical analyzer
Period *Obligations*
08/01/75-06/30/76 FY76: $12,238 TOTAL: $12,238
Prin. Invest. *NASA Tech Officer* *CASE Category*
Ioup, J. W. LARC/Outlaw, R. A. 13-Physics

MARYLAND

NGR 21-027-001 **Bowie State College** **2268**
Research in cosmic ray physics
Period *Obligations*
09/01/69-04/30/77 FY76: $11,287 TOTAL: $96,148
Prin. Invest. *NASA Tech Officer* *CASE Category*
Tornabene, H. S. GSFC/Boldt, E. A. 11-Astronomy

NGR 21-027-004 **Bowie State College** **2269**
Research in numerical integration
Period *Obligations*
05/25/71-07/31/77 FY76: TOTAL: $47,371
Prin. Invest. *NASA Tech Officer* *CASE Category*
Srivastava, S. GSFC/Fuchs, A. J. 21-Mathematics
GSFC/Velez, C. E.

NGR 21-027-010 **Bowie State College** **2270**
Holographic gratings for spectrographic applications study of aberrations
Period *Obligations*
05/14/73-06/30/77 FY76: $16,302 TOTAL: $61,381
Prin. Invest. *NASA Tech Officer* *CASE Category*
Bhatia, M. S. GSFC/Caruso, A. J. 13-Physics
GSFC/Osantowski, J. F.

NGT 21-027-012 **Bowie State College** **2271**
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/74-05/31/77 FY76: $22,867 TOTAL: $87,692
Prin. Invest. *NASA Tech Officer* *CASE Category*
Kirksey, C. H. GSFC/Mundy, J. R. 21-Mathematics
GSFC/Puleo, D. L.

NSG 5009 **Bowie State College** **2272**
Characterization of the physico-chemical properties of polymeric materials for aerospace flights
Period *Obligations*
07/01/74-08/31/76 FY76: TOTAL: $37,083
Prin. Invest. *NASA Tech Officer* *CASE Category*
Rock, M. GSFC/Gross, F. C. 12-Chemistry
Simms, B. R.

NSG 1096 **Chesapeake College** 2273
Investigation of the radiation induced by a laser beam incident on sea water
Period *Obligations*
09/01/74-08/31/76 FY76: $29,452 TOTAL: $54,140
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Paul, F. W. LARC/Exton, R. J. 33-Oceanography
Zimmerman, A. V. LERC/Houghton, W. M.

NGR 21-122-001 **Coppin State College** 2274
Computer graphics system for the display of pulse height analysis data
Period *Obligations*
12/01/73-08/31/75 FY76: TOTAL: $11,958
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sommerfeldt, D. E. GSFC/Muckel, G. A. 21-Mathematics

NSG 5051 **Coppin State College** 2275
Research on the failure mechanism and other factors leading to reduction of cycle life in aerospace nickel-cadmium cells
Period *Obligations*
05/01/75-04/30/77 FY76: $32,900 TOTAL: $45,743
Prin. Invest. *NASA Tech. Officer* *CASE Category*
McDermott, P. P. GSFC/Webster, W. H., Jr. 12-Chemistry
GSFC/Ford, F. E.

NSG 5052 **Coppin State College** 2276
Research on the penalty method as an effective technique for solving constrained minimization problems
Period *Obligations*
05/01/75-04/30/76 FY76: TOTAL: $9,335
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pinsky, S. S. GSFC/Rosenzweig, M. B.
21-Mathematics

NGT 21-123-001 **Goucher College** 2277
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/74-05/31/77 FY76: $7,000 TOTAL: $21,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Billet, J. HQ-P/Pohly, J. G. 99-Multi-Discip
HQ-U/Jenkins, H. G.

NAS 5-11415 **Johns Hopkins University** 2278
Atmosphere Explorer photoelectron and energetic particle experiment
Period *Obligations*
08/15/74-11/15/77 FY76: $131,827 TOTAL: $962,327
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Doering, D. M. GSFC/Corrigan, J. P. 31-Atmos Sci

NAS 5-23316 **Johns Hopkins University** 2279
Design study of ultraviolet properties for large space telescope
Period *Obligations*
09/24/73-06/30/77 FY76: $24,000 TOTAL: $103,607
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fastie, W. G. GSFC/Boggess, A. 11-Astronomy

NAS 6-2706 **Johns Hopkins University** 2280
Services and materials necessary to perform theoretical studies in ocean dynamics
Period *Obligations*
01/16/76-01/15/77 FY76: $85,976 TOTAL: $85,976
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Phillips, O. M. WFC/Stanley, H. R. 33-Oceanography
WFC/Huang, N.

NAS 8-31413 **Johns Hopkins University** 2281
Feasibility of multiple detector focal plane array UV spectrometer for the AMPS laboratory
Period *Obligations*
03/31/75-11/30/75 FY76: TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Feldman, P. D. MSFC/Roberts, W. T. 31-Atmos Sci
Moos, H. W. MSFC/Chappell, C. R.

NGR 21-001-001 **Johns Hopkins University** 2282
Rocket and laboratory experiments and analysis on ultraviolet spectra of upper atmosphere
Period *Obligations*
08/01/61-10/16/76 FY76: $251,900 TOTAL: $3,853,863
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fastie, W. G. GSFC/Bissell, E. E., Jr. 11-Astronomy
Feldman, P. D. HQ-SL/Rosendhal, J. D.

NGR 21-001-111 **Johns Hopkins University** 2283
Small group performance & effects of contingency management in a programmed environment
Period *Obligations*
03/31/72-10/14/76 FY76: $105,000 TOTAL: $645,255
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brady, J. V. ARC/Patton, R. M. 62-Social Aspects

NGR 21-001-115 **Johns Hopkins University** 2284
Investigation of high resolution spectrometer for large space telescope
Period *Obligations*
07/01/75-02/26/76 FY76: $2,310 TOTAL: $12,777
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fastie, W. G. GSFC/Sobieski, S. 11-Astronomy
GSFC/Meese, K. J.

NSG 1265 **Johns Hopkins University** 2285
Investigation of transient fault phenomena in digital systems
Period *Obligations*
12/01/75-11/31/76 FY76: $49,050 TOTAL: $49,050
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Masson, G. M. LARC/Bavuso, S. J. 45-Elec Engr
LARC/Migneault, G. E.

MARYLAND (Continued)

NSG 5029 Johns Hopkins University 2286

Search for X-rays from the central region of the cygnus loop nebula

Period	*Obligations*	
10/01/74-09/30/75	FY76:	TOTAL: $9,923
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Henry, R. C.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 5065 Johns Hopkins University 2287

Photometric measurements of cometary gas production rates

Period	*Obligations*	
05/01/75-07/31/76	FY76:	TOTAL: $10,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Feldman, P. D.	GSFC/Maran, S. P. GSFC/Hobbs, R. W.	11-Astronomy

NSG 5067 Johns Hopkins University 2288

Investigation of stellar chromospheres and the interstellar medium with the Copernicus satellite

Period	*Obligations*	
07/01/75-10/31/76	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moos, H. W.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 5078 Johns Hopkins University 2289

Investigation of stellar coronae with the Copernicus satellite

Period	*Obligations*	
09/01/75-08/31/76	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Henry, R. C.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 5090 Johns Hopkins University 2290

Research in earth sciences

Period	*Obligations*	
01/01/76-12/31/76	FY76: $72,875	TOTAL: $72,875
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Marsh, B. D. Phillips, O. M.	GSFC/Coates, R. J. GSFC/Mead, G. D.	32-Geological Sci

NSG 5119 Johns Hopkins University 2291

Local interstellar hydrogen observations and search for chromospheres and coronal in a& f stars a&f

Period	*Obligations*	
07/01/76-06/30/77	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Henry, R. C.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 7055 Johns Hopkins University 2292

Satellite data analysis

Period	*Obligations*	
01/01/74-12/31/76	FY76: $99,000	TOTAL: $159,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Krimigis, S. M.	HQ-ST/Taylor, W. W. HQ-ST/Schmerling, E. R.	13-Physics

NAS 5-23558 Morgan State University 2293

Investigation, identification, analysis and interpretation of new possibilities in transfer technology

Period	*Obligations*	
06/01/76-06/01/77	FY76: $21,136	TOTAL: $21,136
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Collagan, R. B.	GSFC/Friedman, D. S.	49-Engr, NEC

NGR 21-025-011 Morgan State University 2294

Evaluative research of audio modules

Period	*Obligations*	
01/01/74-01/31/75	FY76:	TOTAL: $26,135
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Collagan, R. B.	GSFC/Shorter, C. W.	99-Multi-Discip

NGT 21-025-006 Morgan State University 2295

Summer faculty fellowship program

Period	*Obligations*	
04/16/71-03/31/77	FY76: $33,635	TOTAL: $204,416
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Proctor, N. K.	GSFC/Mundy, J. R.	19-Phys Sci, NEC

NSG 5074 Morgan State University 2296

Research calibration of photographic and spectrographic films

Period	*Obligations*	
10/01/75-03/31/77	FY76: $24,250	TOTAL: $24,250
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hammond, E. C., Jr.	GSFC/Baker, G. R. GSFC/Stober, A. K.	11-Astronomy

NGR 21-002-010 University of Maryland - Baltimore 2297

Theoretical & experimental research on gravitational radiation

Period	*Obligations*	
06/12/63-05/14/77	FY76: $26,664	TOTAL: $965,887
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Misner, C. W.	HQ-SA/Roman, N. G. HQ-SA/Rosendhal, J. D.	11-Astronomy

NSG 2098 University of Maryland - Baltimore 2298

Alterations in the mammalian vestibular system associated with changes in gravitational field

Period	*Obligations*	
08/01/75-07/31/76	FY76: $39,983	TOTAL: $39,983
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grenell, R. G.	ARC/Sharp, J. C.	53-Other Medical

NAS 5-11063 University of Maryland - College Park 2299

Experiment to analyze ions and electrons for IMP-H & J

Period	*Obligations*	
06/11/68-10/31/79	FY76: $71,000	TOTAL: $1,732,392
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gloeckler, G.	GSFC/Davis, M. A.	13-Physics

NASA'S UNIVERSITY PROGRAM

MARYLAND (Continued)

NAS 5-20062 **University of Maryland - College Park** **2300**
Low energy charged particles experiment for International Sun-Earth Explorer mother and heliocentric spacecraft
Period *Obligations*
05/02/74-07/31/80 FY76: $79,000 TOTAL: $369,671
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gloeckler, G. GSFC/Davis, M. A. 13-Physics

NAS 5-20834 **University of Maryland - College Park** **2301**
Investigation of the origin of organic molecules in the atmosphere of Jupiter
Period *Obligations*
01/09/75-10/31/76 FY76: $9,000 TOTAL: $18,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ponnamperuma, C. A. GSFC/Stief, L. J. 12-Chemistry
GSFC/Donn, B. D.

NAS 5-22537 **University of Maryland - College Park** **2302**
Lidar design requirements study
Period *Obligations*
08/08/75-02/15/77 FY76: $19,686 TOTAL: $19,686
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wilkerson, T. W. GSFC/Spencer, N. W. 31-Atmos Sci
GSFC/Hudson, R. D.

NAS 5-22581 **University of Maryland - College Park** **2303**
Study of systems implementation languages
Period *Obligations*
09/24/75-09/23/76 FY76: $20,939 TOTAL: $20,939
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Basili, V. R. GSFC/Des Jardins, R. 21-Mathematics

NAS 5-22835 **University of Maryland - College Park** **2304**
Workshop meetings for the electrodynamic Explorer preliminary science mission study
Period *Obligations*
10/16/75-08/31/76 FY76: $40,824 TOTAL: $40,824
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Messenger, C. J. GSFC/Findlay, J. A. 31-Atmos Sci

NAS 5-22878 **University of Maryland - College Park** **2305**
Study of analysis and modeling of distributed computing
Period *Obligations*
01/09/76-01/08/77 FY76: $55,073 TOTAL: $55,073
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Agrawala, A. K. GSFC/Barsky, J. 21-Mathematics
GSFC/Larsen, R. L.

NAS 5-23237 **University of Maryland - College Park** **2306**
Feasibility study for infrared interferometer, spectrometer, & radiometer for Mariner/Jupiter 1977 launch
Period *Obligations*
05/09/73-06/30/77 FY76: $10,000 TOTAL: $32,900
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ponnamperuma, C. A. GSFC/Conrath, B. J. 13-Physics
GSFC/Hanel, R. A.

NAS 5-23457 **University of Maryland - College Park** **2307**
Study of application of a field neutron generator
Period *Obligations*
04/06/76-04/06/77 FY76: $11,152 TOTAL: $11,152
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sommer, S. E. GSFC/Trombka, J. I. 39-Env Sci, NEC

NAS 9-5886 **University of Maryland - College Park** **2308**
Lunar gravimeter experiment for ALSEP
Period *Obligations*
04/26/66-12/31/74 FY76: TOTAL: $2,266,168
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Weber, J. JSC/Eichelman, W. F. 19-Phys Sci, NEC

NCA 2-420463 **University of Maryland - College Park** **2309**
Intermolecular recognition between nucleotides and amino acids
Period *Obligations*
06/01/74-11/30/75 FY76: TOTAL: $2,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ponnamperuma, C. A. ARC/Zill, L. P. 12-Chemistry

NCA 2-420501 **University of Maryland - College Park** **2310**
Joint meeting on the chemical evolution of giant planets
Period *Obligations*
08/01/74-12/31/74 FY76: TOTAL: $7,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ponnamperuma, C. A. ARC/Zill, L. P. 11-Astronomy

NCA 2-420701 **University of Maryland - College Park** **2311**
Spectroscopic data for atmospheric assay
Period *Obligations*
07/01/76-12/31/76 FY76: $9,711 TOTAL: $9,711
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wilkerson, T. B. ARC/Boese, R. W. 31-Atmos Sci

NCA 5-1 **University of Maryland - College Park** **2312**
Study of digital image processing of astronomical scenes
Period *Obligations*
09/03/74-05/15/75 FY76: TOTAL: $8,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rosenfeld, A. GSFC/Fischel, D. 11-Astronomy
GSFC/Klinglesmith, D. A.

NCA 5-3 **University of Maryland - College Park** **2313**
Study of OSO-7 data of the solar corona
Period *Obligations*
10/01/74-09/30/75 FY76: $5,640 TOTAL: $5,640
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smith, E. GSFC/Neupert, W. M. 31-Atmos Sci

NCA 5-4 **University of Maryland - College Park** **2314**
Ion-induced X-ray cross-sections research
Period *Obligations*
09/01/74-09/01/75 FY76: $7,500 TOTAL: $7,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Martin, F. W. GSFC/Kastner, S. O. 31-Atmos Sci

NCA 5-6 **University of Maryland - College Park** **2315**
Analysis of a satellite X-ray detector

Period	*Obligations*	
06/01/75-08/23/75	FY76:	TOTAL: $6,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rose, W.	GSFC/Dennis, B. R.	19-Phys Sci, NEC

NCA 5-7 **University of Maryland - College Park** **2316**
Determining the observing program and interpreting the life-time data of a satellite X-ray detector

Period	*Obligations*	
06/01/75-08/23/75	FY76:	TOTAL: $2,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Westerhaut, G.	GSFC/Crannel, C. J.	19-Phys Sci, NEC

NCA 5-10 **University of Maryland - College Park** **2317**
DIGITOL image processing

Period	*Obligations*	
09/03/75-05/15/76	FY76: $9,000	TOTAL: $9,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rosenfeld, A.	GSFC/Fischel, D.	11-Astronomy

NCA 5-11 **University of Maryland - College Park** **2318**
Development and testing a very efficient two dimensional fast Fourier transform algorithm

Period	*Obligations*	
08/15/75-09/15/76	FY76: $7,432	TOTAL: $7,432
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harger, R.	GSFC/Fischel, D. GSFC/Klinglesmith, D. A.	11-Astronomy

NGL 21-002-005 **University of Maryland - College Park** **2319**
Theoretical research on dynamics of astrophysical plasmas including studies of structure of plasma shock waves in solar corona and their possible radio emission

Period	*Obligations*	
02/01/62-06/30/78	FY76: $60,000	TOTAL: $850,493
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wu, C. S.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	19-Phys Sci, NEC

NGL 21-002-033 **University of Maryland - College Park** **2320**
Theoretical and experimental studies in space sciences, including consideration of rocket probe and satellites techniques

Period	*Obligations*	
06/02/64-06/30/79	FY76: $21,000	TOTAL: $2,623,213
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smith, E. V. Kerr, F. J.	GSFC/Northrop, T. G. GSFC/Pieper, G. F.	31-Atmos Sci

NGL 21-002-367 **University of Maryland - College Park** **2321**
Multifrequency mapping of the radio sun

Period	*Obligations*	
10/01/72-06/31/75	FY76:	TOTAL: $202,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kundu, M. R. Erickson, W. C.	GSFC/Fainberg, J.	11-Astronomy

NGR 21-002-002 **University of Maryland - College Park** **2322**
Theoretical studies in atmospheric and space physics

Period	*Obligations*	
02/01/60-07/31/76	FY76: $25,000	TOTAL: $687,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Opik, E. J. Laster, H. E.	HQ-SL/Brunk, W. E.	11-Astronomy

NGR 21-002-007 **University of Maryland - College Park** **2323**
Research on measurement of atomic transition probabilities of high temperature cases

Period	*Obligations*	
03/20/63-04/30/76	FY76: $58	TOTAL: $318,082
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilkerson, T. D. Miller, M. H.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 21-002-066 **University of Maryland - College Park** **2324**
A study of primary cosmic ray electrons, utilizing balloon-borne experiments

Period	*Obligations*	
11/19/65-05/31/76	FY76: $30,000	TOTAL: $735,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Earl, J. A. O'Gallagher, J. J.	HQ-SA/Opp, A. G.	11-Astronomy

NGR 21-002-073 **University of Maryland - College Park** **2325**
Experimental and theoretical investigation of plasma radiation

Period	*Obligations*	
04/26/66-02/28/77	FY76: $75,000	TOTAL: $697,005
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Griem, H. R.	HQ-SA/Rosendhal, J. D. HQ-SA/Roman, N. G.	11-Astronomy

NGR 21-002-096 **University of Maryland - College Park** **2326**
Research in atmospheric physics

Period	*Obligations*	
06/21/66-12/31/76	FY76: $85,000	TOTAL: $631,414
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Matthews, D. L.	GSFC/Brace, L. H. GSFC/Gagnon, B. D.	31-Atmos Sci

NGR 21-002-199 **University of Maryland - College Park** **2327**
Research in solar radio astronomy at short wavelengths

Period	*Obligations*	
04/11/69-09/30/76	FY76: $60,000	TOTAL: $223,656
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kundu, M. R.	HQ-SL/Brunk, W. E. HQ-ST/Timothy, A. F.	13-Physics

NGR 21-002-224 **University of Maryland - College Park** **2328**
Research on the measurement of the charge and isotopic composition on the primary cosmic rays

Period	*Obligations*	
07/31/69-02/28/79	FY76: $57,500	TOTAL: $228,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gloeckler, G.	HQ-SA/Sofia, S. HQ-SA/Opp, A. G.	11-Astronomy

NGR 21-002-270 University of Maryland - College Park 2329
Research in mechanical theorem proving

Period	Obligations	
05/18/70-09/30/76	FY76: $24,962	TOTAL: $113,367
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Minker, J.	HQ-RE/Pontious, C. E. JPL/Whitney, W. M.	21-Mathematics

NGR 21-002-291 University of Maryland - College Park 2330
Studies of charged particles in natural and laboratory environments

Period	Obligations	
01/28/71-09/30/76	FY76: $34,289	TOTAL: $159,408
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Coplan, M. A.	GSFC/Ogilvie, K. W.	13-Physics

NGR 21-002-316 University of Maryland - College Park 2331
Research program in charged particle detector technology

Period	Obligations	
07/01/71-09/30/76	FY76: $276,000	TOTAL: $1,073,717
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gloeckler, G. O'Gallagher, J. J.	GSFC/Teegarden, B. J.	13-Physics

NGR 21-002-317 University of Maryland - College Park 2332
Chemical studies of the origin of life

Period	Obligations	
08/18/71-06/30/76	FY76: $90,000	TOTAL: $482,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ponnamperuma, C. A.	HQ-SB/Young, R. S.	12-Chemistry

NGR 21-002-344 University of Maryland - College Park 2333
Studies on thermophysical properties in critical region of fluids

Period	Obligations	
02/16/72-03/01/77	FY76: $12,000	TOTAL: $54,999
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sengers, J. V.	LERC/Simoneau, R. J.	13-Physics

NGR 21-002-368 University of Maryland - College Park 2334
Geochemistry of lunar & meteoritic materials

Period	Obligations	
06/01/72-06/30/77	FY76: $76,848	TOTAL: $325,165
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weidner, J. R.	GSFC/Philpotts, J. A.	32-Geological Sci

NGR 21-002-386 University of Maryland - College Park 2335
Rocket investigation of Relativistic Electron Precipitation (REP) events

Period	Obligations	
04/13/73-06/30/74	FY76:	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Matthews, D. L.	HQ-ST/Cauffman, D. P.	11-Astronomy

NGR 21-002-390 University of Maryland - College Park 2336
Geophysical causes and measurement accuracies related to earth rotation

Period	Obligations	
12/11/72-09/10/75	FY76:	TOTAL: $12,669
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Currie, D. G.	GSFC/Smith, D. E.	19-Phys Sci, NEC

NGR 21-002-399 University of Maryland - College Park 2337
Urbanization and geologic processes in the Chesapeake Bay watershed

Period	Obligations	
03/01/73-10/31/76	FY76: $23,136	TOTAL: $66,311
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ragan, R. M.	GSFC/Rango, A. GSFC/Salomonson, V. V.	32-Geological Sci

NGR 21-002-400 University of Maryland - College Park 2338
Preliminary experiments with a split sphere high pressure apparatus

Period	Obligations	
04/17/73-12/31/76	FY76: $63,000	TOTAL: $173,641
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spain, I. L. Paauwe, J. Elton, S. K.	LERC/Coles, W. D. LERC/Brown, G. V.	13-Physics

NGR 21-002-408 University of Maryland - College Park 2339
Investigations into nuclear plasms and radiant energy systems

Period	Obligations	
06/30/73-04/30/75	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tidman, D. A.	HQ-RR/Thom, K.	21-Mathematics

NGR 21-002-433 University of Maryland - College Park 2340
Radar optimization for sea surface and geodetic measurements

Period	Obligations	
01/01/74-12/31/74	FY76:	TOTAL: $11,567
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harger, R. O.	GSFC/Marini, J. W.	33-Oceanography

NGR 21-002-444 University of Maryland - College Park 2341
A wide-band optical very long baseline amplitude interferometer for precise determination of the polar position

Period	Obligations	
04/01/74-10/31/76	FY76: $8,000	TOTAL: $79,128
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Currie, D. G.	GSFC/Bufton, J. L.	13-Physics

NGT 21-002-254 University of Maryland - College Park 2342
Summer faculty fellowship program in research for 24 faculty members

Period	Obligations	
12/23/69-03/31/77	FY76: $107,810	TOTAL: $530,190
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Emad, F. P.	HQ-P/Carter, C. H.	49-Engr, NEC

MARYLAND (Continued)

NSG 1031 **University of Maryland - College Park** **2343**
Kinetics investigation of several reactions involving chlorine-containing compounds

Period	Obligations	
05/01/74-09/15/76	FY76: $29,119	TOTAL: $129,628

Prin. Invest.	NASA Tech. Officer	CASE Category
Davis, D. D.	LARC/Pellett, G. L.	12-Chemistry
Fischer, S.	LARC/Wagner, H. S.	
Vishankara, R. A.		

NSG 1075 **University of Maryland - College Park** **2344**
Airborne in situ atmosphere measurements of the OH free radical via a tunable ultraviolet dye laser

Period	Obligations	
07/01/74-10/31/76	FY76: $34,500	TOTAL: $73,500

Prin. Invest.	NASA Tech. Officer	CASE Category
Davis, D. D.	LARC/Hoell, J. M.	39-Env Sci, NEC
Moriarity, A.	LARC/Young, D. C.	

NSG 1156 **University of Maryland - College Park** **2345**
Tunable lasers for water vapor measurements and other lidar applications

Period	Obligations	
03/15/75-05/31/76	FY76: $8,000	TOTAL: $33,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Gammon, R. W.	LARC/Northam, G. B.	31-Atmos Sci
Wilkerson, T. D.	LARC/Browell, E. V.	
McIlrath, T. J.		

NSG 1193 **University of Maryland - College Park** **2346**
Evaluation of alternative methods for maintenance and dissemination of engineering software

Period	Obligations	
06/01/75-05/31/77	FY76:	TOTAL: $26,415

Prin. Invest.	NASA Tech. Officer	CASE Category
Schaeffer, H. G.	LARC/McComb, H. G., Jr.	41-Aero Engr

NSG 2109 **University of Maryland - College Park** **2347**
Colloquium on the geology, chemistry and paleo-biology of the early precambian

Period	Obligations	
10/01/75-09/30/76	FY76: $5,000	TOTAL: $5,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Ponnamperuma, C. A.	ARC/MacElroy, R. D.	59-Life Sci, NEC

NSG 3001 **University of Maryland - College Park** **2348**
Mechanical properties and the electronic structure of transition metal alloys

Period	Obligations	
03/01/74-02/28/77	FY76: $22,000	TOTAL: $82,888

Prin. Invest.	NASA Tech. Officer	CASE Category
Drew, H. D.	LERC/Stephens, J. R.	47-Materials Engr
Arsenault, R. J.		

NSG 5017 **University of Maryland - College Park** **2349**
Resource identification studies on urban watersheds using the Anacostia river basin as an example

Period	Obligations	
07/15/74-01/31/77	FY76: $28,365	TOTAL: $36,607

Prin. Invest.	NASA Tech. Officer	CASE Category
Ragan, R. M.	GSFC/Salomonson, V. V.	32-Geological Sci
	GSFC/Rango, A.	

NSG 5035 **University of Maryland - College Park** **2350**
Astronomy and geophysics experiment using very long base interferometry

Period	Obligations	
12/01/74-11/30/76	FY76: $26,000	TOTAL: $36,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Richard, J. P.	GSFC/Clark, T. A.	11-Astronomy

NSG 5042 **University of Maryland - College Park** **2351**
Study of CO2 waveguide laser life problem

Period	Obligations	
01/12/75-12/31/76	FY76: $50,039	TOTAL: $80,061

Prin. Invest.	NASA Tech. Officer	CASE Category
Hochuli, U. E.	GSFC/Degnan, J. J.	49-Engr, NEC
	GSFC/McElroy, J. H.	

NSG 5047 **University of Maryland - College Park** **2352**
Study of the geochemistry and dispersal of radionuclides and trace metals in Chesapeake Bay sediments

Period	Obligations	
02/01/75-02/29/76	FY76:	TOTAL: $8,509

Prin. Invest.	NASA Tech. Officer	CASE Category
Sommer, S. E.	GSFC/Cressy, P. J.	32-Geological Sci
Adler, I.	GSFC/Trombka, J. I.	

NSG 5048 **University of Maryland - College Park** **2353**
Efficient detection, analysis and classification of lightning radiation fields

Period	Obligations	
02/01/75-12/31/76	FY76: $1,200	TOTAL: $20,169

Prin. Invest.	NASA Tech. Officer	CASE Category
Harger, R. O.	GSFC/Levine, D. M.	45-Elec Engr
Tretter, S. A.		

NSG 5059 **University of Maryland - College Park** **2354**
Line blocking measurements in the ultra-violet spectra of Sirius, Procyon and Canopus

Period	Obligations	
03/01/75-06/30/76	FY76:	TOTAL: $13,200

Prin. Invest.	NASA Tech. Officer	CASE Category
Bell, R. A.	GSFC/Kupperian, J. E.	11-Astronomy

NASA'S UNIVERSITY PROGRAM

MARYLAND (Continued)

NSG 5062 **University of Maryland - College Park** **2355**

Research to achieve centimeter laser ranging accuracy to earth satellites for earth physics applications

Period	*Obligations*	
04/01/75-12/31/76	FY76: $50,000	TOTAL: $215,000
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Alley, C. O. Wilkerson, T. D. Ilrath, M. C.	GSFC/Fitzmaurice, M. W.	99-Multi-Discip

NSG 5083 **University of Maryland - College Park** **2356**

Multiphase flows for lunar and terrestrial volcanoes

Period	*Obligations*	
10/01/75-09/30/76	FY76: $12,000	TOTAL: $12,000
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Pai, S. I.	GSFC/O'Keefe, J. A.	19-Phys Sci, NEC

NSG 5084 **University of Maryland - College Park** **2357**

Investigations with satellite data

Period	*Obligations*	
10/01/75-09/30/76	FY76: $65,497	TOTAL: $65,497
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Thompson, O. E. Fritz, S.	GSFC/Theon, J. S. GSFC/Arking, A.	31-Atmos Sci

NSG 5094 **University of Maryland - College Park** **2358**

Analysis of lunar data

Period	*Obligations*	
02/01/76-01/31/77	FY76: $45,904	TOTAL: $45,904
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Adler, I.	GSFC/Philpotts, J. A.	32-Geological Sci

NSG 5112 **University of Maryland - College Park** **2359**

Magnetogeochemistry of solid solar systems bodies

Period	*Obligations*	
05/01/76-04/30/77	FY76: $26,962	TOTAL: $26,962
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Weidner, J. R.	GSFC/Wasilewski, P. J.	19-Phys Sci, NEC

NSG 5121 **University of Maryland - College Park** **2360**

Geochemistry of lunar materials

Period	*Obligations*	
07/01/76-06/30/77	FY76: $79,061	TOTAL: $79,061
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Weidner, J. R.	GSFC/Nava, D. F. GSFC/Philpotts, J. A.	32-Geological Sci

NSG 6001 **University of Maryland - College Park** **2361**

Resource and environmental management of the Chesapeake Bay region

Period	*Obligations*	
12/15/74-09/15/75	FY76:	TOTAL: $29,686
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Harmon, D. M. Fuller, K. B.	WFC/Alfonsi, P. J.	39-Env Sci, NEC

NSG 6010 **University of Maryland - College Park** **2362**

An in-depth investigation to assess and quantify the economic implications of management oriented remote sensing activities

Period	*Obligations*	
05/01/76-04/30/77	FY76: $29,961	TOTAL: $29,961
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Harmon, D. M. Fuller, K. B.	WFC/Alfonsi, P. J.	72-Economics

NSG 7017 **University of Maryland - College Park** **2363**

Magnetic remanence associated with the shock wave impact induced gamma alpha transformation in iron

Period	*Obligations*	
03/01/74-08/31/75	FY76:	TOTAL: $22,886
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Wasilewski, P. Weidner, J. R.	HQ-SM/Alexander, D. E.	32-Geological Sci

NSG 7046 **University of Maryland - College Park** **2364**

Studies of the Apollo 15 and 16 orbital X-ray data

Period	*Obligations*	
05/01/74-05/31/77	FY76: $21,200	TOTAL: $80,161
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Adler, I.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7196 **University of Maryland - College Park** **2365**

Research and development of gravitational experiments for spacecraft

Period	*Obligations*	
03/01/76-02/28/77	FY76: $44,246	TOTAL: $44,246
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Weber, J. Richard, J. P.	HQ-RR/Schwenk, F. C. JPL/Mason, P. V.	13-Physics

NAS 6-2595 **University of Maryland - Eastern Shore** **2366**

Library services

Period	*Obligations*	
09/30/74-09/30/76	FY76: $58,333	TOTAL: $113,352
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Unavailable	WFC/Floyd, J. C. WFC/Denton, S. R.	99-Multi-Discip

NGR 21-119-001 **University of Maryland - Eastern Shore** **2367**

The fabrication of semiconductor injection lasers with output to match specific atomic transitions

Period	*Obligations*	
10/12/72-08/31/76	FY76:	TOTAL: $48,563
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Singh, G.	GSFC/Fitzmaurice, M. W.	19-Phys Sci, NEC

MARYLAND (Continued)

NGR 21-119-002 **University of Maryland - Eastern Shore** **2368**
A computer technique to vector aircraft
Period 04/27/72-08/31/75 *Obligations* FY76: TOTAL: $29,159
Prin. Invest. Nagarajon, N. *NASA Tech. Officer* WFC/Raine, A. W. *CASE Category* 41-Aero Engr

NGR 21-119-003 **University of Maryland - Eastern Shore** **2369**
High power pulsed laser beams and their atmospheric propagation limitations
Period 08/18/72-02/28/76 *Obligations* FY76: TOTAL: $46,254
Prin. Invest. Singh, G. *NASA Tech. Officer* WFC/Kim, H. H.; WFC/Oberholtzer, J. D. *CASE Category* 13-Physics

NSG 6006 **University of Maryland - Eastern Shore** **2370**
Studies of microwave radiation as a tool in soil sterilization against major diseases and pests of agricultural crops
Period 03/01/76-10/31/76 *Obligations* FY76: $29,700 TOTAL: $29,700
Prin. Invest. Wutoh, J. G. *NASA Tech. Officer* WFC/Oberholtzer, J. D. *CASE Category* 99-Multi-Discip

MASSACHUSETTS

NAS 5-22994 **Boston College** **2371**
Management case studies
Period 03/09/76-04/30/76 *Obligations* FY76: $30,210 TOTAL: $30,210
Prin. Invest. Kelley, A. J.; Murphy, D. C.; Sher, F. [illegible] *NASA Tech. Officer* GSFC/Morse, S.; HQ-KC/Guitinan, J. P. *CASE Category* 72-Economics

NSG 7190 **Boston College** **2372**
Coordinated analysis of auroral data and particles data from ATS-5 and ATS-6
Period 12/01/75-11/31/76 *Obligations* FY76: $30,000 TOTAL: $30,000
Prin. Invest. Eather, R. H. *NASA Tech. Officer* HQ-ST/Cauffman, D. P.; HQ-ST/Schmerling, E. R. *CASE Category* 13-Physics

NGR 22-004-018 **Boston University** **2373**
Ultrasonic measurement of heart volume
Period 03/01/70-12/31/75 *Obligations* FY76: TOTAL: $65,511
Prin. Invest. Fulton, G. P.; Berman, H. J. *NASA Tech. Officer* HQ-SB/Larson, C. A. *CASE Category* 59-Life Sci, NEC

NGR 22-004-025 **Boston University** **2374**
Microbial contributions to the precambrian earth
Period 12/15/70-09/30/76 *Obligations* FY76: $34,000 TOTAL: $122,353
Prin. Invest. Margulis, L. *NASA Tech. Officer* HQ-SB/Young, R. S. *CASE Category* 32-Geological Sci

NGR 22-004-030 **Boston University** **2375**
Compressible unsteady potential aerodynamic flow around lifting bodies having arbitrary shapes & motions
Period 12/08/71-12/31/76 *Obligations* FY76: $75,321 TOTAL: $268,429
Prin. Invest. Morino, L. *NASA Tech. Officer* LARC/Yates, E. C., Jr. *CASE Category* 41-Aero Engr

NSG 5055 **Boston University** **2376**
Investigation of the sharp-lined Tau Hercules star
Period 05/01/75-08/31/76 *Obligations* FY76: TOTAL: $8,671
Prin. Invest. Adelman, S. J. *NASA Tech. Officer* GSFC/Kupperian, J. E. *CASE Category* 11-Astronomy

NSG 7063 **Boston University** **2377**
Programmed health testing in a working population
Period 05/29/74-09/01/76 *Obligations* FY76: TOTAL: $6,683
Prin. Invest. Hershberg, P. I. *NASA Tech. Officer* HQ-QG/Arnoldi, L. B. *CASE Category* 52-Clinical Med

NSG 7098 **Brandeis University** **2378**
Studies of solar atmospheric dynamics
Period 01/01/75-09/01/76 *Obligations* FY76: TOTAL: $10,000
Prin. Invest. Stein, R. F. *NASA Tech. Officer* HQ-ST/Timothy, A. F. *CASE Category* 11-Astronomy

NAS 1-10492 **Harvard University** **2379**
Participation in science planning for Viking 1975 missions in area of entry science
Period 03/25/71-03/31/77 *Obligations* FY76: $53,507 TOTAL: $176,707
Prin. Invest. McElroy, M. B. *NASA Tech. Officer* LARC/Williams, T. S., Jr.; LARC/Glenny, W. R. *CASE Category* 31-Atmos Sci

NAS 2-9127 **Harvard University** **2380**
Interdisciplinary scientist, Pioneer Venus program
Period 02/23/76-10/01/76 *Obligations* FY76: $11,014 TOTAL: $11,014
Prin. Invest. Goody, R. M. *NASA Tech. Officer* ARC/Hall, C. F.; ARC/Porter, D. L. *CASE Category* 11-Astronomy

NAS 5-3949 **Harvard University** **2381**
Study and experiment for a high resolution ultraviolet telescope and spectrometer system
Period *Obligations*
01/28/65-06/30/76 FY76: $952,879 TOTAL: $37,803,486
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goldberg, L. MSFC/Unavailable 11-Astronomy

NAS 5-20764 **Harvard University** **2382**
Ultraviolet investigations of stellar X-ray sources
Period *Obligations*
01/06/75-01/06/76 FY76: TOTAL: $8,860
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dupree, A. K. GSFC/Underhill, A. B. 11-Astronomy

NAS 5-22343 **Harvard University** **2383**
Spectroheliometer for solar maximum measurements
Period *Obligations*
05/14/75-11/07/75 FY76: $43,300 TOTAL: $93,300
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Reeves, E. M. GSFC/Donley, J. L. 11-Astronomy
Timothy, J. G.

NAS 5-22374 **Harvard University** **2384**
Solar soft X-ray telescope study
Period *Obligations*
05/14/75-06/30/76 FY76: $24,090 TOTAL: $52,651
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Withbroe, G. L. GSFC/White, A. F., Jr. 11-Astronomy

NAS 5-23199 **Harvard University** **2385**
Atmosphere Explorer theoretical investigations
Period *Obligations*
03/19/73-08/19/77 FY76: $58,000 TOTAL: $133,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
McElroy, M. B. GSFC/Findlay, J. A. 31-Atmos Sci

NAS 5-23371 **Harvard University** **2386**
Investigation of stellar X-ray sources
Period *Obligations*
04/08/76-06/07/77 FY76: $9,624 TOTAL: $9,624
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dupree, A. K. GSFC/Underhill, A. B. 11-Astronomy

NAS 5-23494 **Harvard University** **2387**
X-ray ultraviolet spectroheliometer experiment for synchronous meteorological satellite - Study effort
Period *Obligations*
05/19/76-09/30/76 FY76: $145,000 TOTAL: $145,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Reeves, E. M. GSFC/Donley, J. L. 31-Atmos Sci

NAS 8-31374 **Harvard University** **2388**
Scientific data reduction and analysis activities ATM experiment S-054
Period *Obligations*
01/01/75-06/30/76 FY76: $254,999 TOTAL: $473,963
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vaiana, G. S. MSFC/Snoddy, W. C. 13-Physics
MSFC/Fields, S. A.

NAS 8-31549 **Harvard University** **2389**
Development of a microchannel plate detector
Period *Obligations*
09/04/75-08/31/76 FY76: $99,907 TOTAL: $99,907
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Noyes, R. W. MSFC/Bordelon, C. S. 13-Physics
Reeves, E. M. MSFC/Huggins, C. T.

NASW 2938 **Harvard University** **2390**
Development and test of photoncounting microchannel plate detector arrays
Period *Obligations*
05/14/76-06/30/76 FY76: $109,419 TOTAL: $109,419
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Noyes, R. W. HQ-SA/Rosendhal, J. D. 49-Engr, NEC

NGL 22-007-006 **Harvard University** **2391**
Theoretical & experimental studies on ultraviolet solar physics
Period *Obligations*
07/10/63-12/31/76 FY76: $255,000 TOTAL: $4,221,398
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Parkinson, W. H. HQ-ST/Timothy, A. F. 13-Physics

NGL 22-007-069 **Harvard University** **2392**
Infrared absorption spectrophotometry of organic extractives from precambrian sediments
Period *Obligations*
05/29/66-05/31/77 FY76: $25,393 TOTAL: $307,399
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Barghoorn, E. S. HQ-SB/Young, R. S. 32-Geological Sci

NGL 22-007-117 **Harvard University** **2393**
Investigation of the behavior of ultrashort light pulses of picosecond duration in optical media
Period *Obligations*
04/22/68-01/31/78 FY76: $20,000 TOTAL: $285,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bloembergen, N. GSFC/McAvoy, N. 13-Physics
GSFC/Fitzmaurice, M. W.

NGL 22-007-228 **Harvard University** **2394**
Theoretical investigation of multiphase in Jupiter interior and possible relationship to behavior of outer atmospheric layers
Period *Obligations*
12/15/71-09/30/78 FY76: $80,308 TOTAL: $395,987
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goody, R. M. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NGL 22-007-247 **Harvard University** **2395**
Lunar sample analysis
Period *Obligations*
06/30/72-01/31/79 FY76: $123,975 TOTAL: $416,248
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hays, J. F. JSC/Harris, J. W. 12-Chemistry

NGR 22-007-202 **Harvard University** **2396**
Investigations in the far ultraviolet solar spectrum
Period *Obligations*
11/05/70-06/30/76 FY76: $40,000 TOTAL: $945,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Parkinson, W. H. HQ-ST/Timothy, A. F. 11-Astronomy

NGR 22-007-242 **Harvard University** **2397**
Theoretical researches into planetary atmospheres and their influence upon surface features
Period *Obligations*
06/13/72-06/14/74 FY76: TOTAL: $27,672
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goody, R. M. HQ-SL/Fellows, R. F. 31-Atmos Sci

NGR 22-007-256 **Harvard University** **2398**
Bone metabolism and hormones
Period *Obligations*
03/28/73-12/31/76 FY76: $20,000 TOTAL: $89,132
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tashjian, A. H., Jr. ARC/Young, D. R. 52-Clinical Med

NGR 22-007-257 **Harvard University** **2399**
Spectra of solar radio bursts
Period *Obligations*
04/11/73-12/31/76 FY76: TOTAL: $110,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Maxwell, A. HQ-ST/Timothy, A. F. 11-Astronomy

NGR 22-007-267 **Harvard University** **2400**
Trace elements of hydrogen and nitrogen in earth atmosphere
Period *Obligations*
09/19/73-12/31/74 FY76: TOTAL: $32,811
Prin. Invest. *NASA Tech. Officer* *CASE Category*
McElroy, M. B. HQ-SL/Fellows, R. F. 31-Atmos Sci

NGR 22-007-269 **Harvard University** **2401**
Theoretical research in planetary physics
Period *Obligations*
09/01/73-08/31/76 FY76: $48,408 TOTAL: $108,408
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cameron, A. G. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Wahmann, R.

NGR 22-007-270 **Harvard University** **2402**
The operation of a balloon-borne 40-inch telescope for far infrared astronomy
Period *Obligations*
11/05/73-09/30/76 FY76: $100,000 TOTAL: $219,868
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fazio, G. G. HQ-SA/Boggess, N. W. 11-Astronomy
Kelinmann, D. E. HQ-SA/Roman, N. G.
Noyes, R. W.

NGR 22-007-272 **Harvard University** **2403**
Theoretical studies in space astronomy
Period *Obligations*
09/01/73-08/31/76 FY76: $32,000 TOTAL: $82,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cameron, A. G. HQ-SA/Sofia, S. 11-Astronomy
HQ-SA/Opp, A. G.

NGR 22-007-275 **Harvard University** **2404**
Waves in the equatorial stratosphere
Period *Obligations*
01/01/74-08/31/75 FY76: TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lindzen, R. S. GSFC/Theon, J. S. 31-Atmos Sci

NGR 22-007-285 **Harvard University** **2405**
Stellar chromospheres and coronas
Period *Obligations*
05/01/74-10/31/75 FY76: TOTAL: $8,900
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Noyes, R. W. GSFC/Kupperian, J. E. 11-Astronomy

NSG 2031 **Harvard University** **2406**
Chemistry and dynamics of trace stratospheric gases
Period *Obligations*
07/01/74-06/30/76 FY76: $31,360 TOTAL: $125,365
Prin. Invest. *NASA Tech. Officer* *CASE Category*
McElroy, M. B. ARC/Poppoff, I. G. 31-Atmos Sci
Wolfsy, S. C. ARC/Whitten, R. C.

NSG 2144 **Harvard University** **2407**
Regulation of protein balance in muscle
Period *Obligations*
04/01/76-03/31/77 FY76: $26,568 TOTAL: $26,568
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goldberg, A. L. ARC/Ellis, S. 51-Biology
Murakami, K.
Linger, E. T.

NSG 5099 **Harvard University** **2408**
Research of chromospheres and coronas of late-type stars
Period *Obligations*
03/01/76-02/28/77 FY76: $12,000 TOTAL: $12,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dupree, A. K. GSFC/Kupperian, J. E. 11-Astronomy

NASA'S UNIVERSITY PROGRAM
MASSACHUSETTS (Continued)

NSG 7018 **Harvard University** **2409**
Transition and coronal line profiles in the solar extreme ultraviolet measurements
Period *Obligations*
03/01/74-06/30/76 FY76: $50,000 TOTAL: $77,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Noyes, R. W. HQ-ST/Timothy, A. F. 11-Astronomy

NSG 7095 **Harvard University** **2410**
Reflection spectra of sodium doped ammonia ice
Period *Obligations*
10/25/74-08/31/76 FY76: $35,380 TOTAL: $70,685
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pipkin, F. M. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NSG 7175 **Harvard University** **2411**
Lyman alpha and white light coronagraph rocket instrument
Period *Obligations*
07/01/75-06/30/76 FY76: $250,000 TOTAL: $250,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Reeves, E. M. HQ-ST/Timothy, A. F. 13-Physics

NSG 7176 **Harvard University** **2412**
Participation in NASA CORE funding
Period *Obligations*
11/01/75-10/31/78 FY76: $400,000 TOTAL: $400,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Field, G. B. HQ-P/Carter, C. H. 11-Astronomy
McElroy, M. B.

NSG 7191 **Harvard University** **2413**
Origin and history of the moon
Period *Obligations*
01/01/76-12/31/76 FY76: $16,023 TOTAL: $16,023
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cameron, A. G. HQ-SL/Williams, R. J. 32-Geological Sci
Ward, W. R. HQ-SL/Flinn, E. A.

NAS 1-9684 **Massachusetts Institute of Technology** **2414**
Participation in the science planning for the Viking 1975 missions in the area of molecular analysis
Period *Obligations*
05/01/70-03/31/77 FY76: $267,098 TOTAL: $862,567
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Biemann, K. LARC/Williams, T. S., Jr.
39-Env Sci, NEC
LARC/Glenny, W. R.

NAS 1-9691 **Massachusetts Institute of Technology** **2415**
Participation in the science planning for the Viking 1975 missions in the area of biology
Period *Obligations*
06/15/70-03/31/77 FY76: $10,924 TOTAL: $62,113
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rich, A. LARC/Williams, T. S., Jr. 51-Biology
LARC/Glenny, W. R.

NAS 1-9702 **Massachusetts Institute of Technology** **2416**
Participation in the science planning for the Viking 1975 missions in the area of radio science
Period *Obligations*
05/20/70-03/31/77 FY76: $94,080 TOTAL: $200,580
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Shapiro, I. I. LARC/Williams, T. S., Jr.
99-Multi-Discip
LARC/Glenny, W. R.

NAS 2-7262 **Massachusetts Institute of Technology** **2417**
Study of gust response & alleviation for propeller in cruising flight
Period *Obligations*
11/06/72-12/31/76 FY76: $99,942 TOTAL: $239,293
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ham, N. D. ARC/Rabbott, J. P., Jr. 41-Aero Engr
Deyst, J. J., Jr. ARC/Johnson, W. R.
Tong, P.

NAS 2-7620 **Massachusetts Institute of Technology** **2418**
Cost study of noise reduction in tilt rotor aircraft
Period *Obligations*
06/01/73-03/31/76 FY76: TOTAL: $140,620
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Faulkner, H. B. ARC/Rabbott, J. P., Jr. 41-Aero Engr
Simpson, R. W. ARC/McCloud, J. L.

NAS 2-8977 **Massachusetts Institute of Technology** **2419**
Radar studies on Pioneer/Venus orbiter mission
Period *Obligations*
08/15/75-06/30/76 FY76: $9,800 TOTAL: $9,800
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pettengill, G. H. ARC/Hall, C. F. 11-Astronomy
ARC/Keller, C. H.

NAS 2-9132 **Massachusetts Institute of Technology** **2420**
Experiment participation, Pioneer/Venus program
Period *Obligations*
02/09/76-10/01/76 FY76: $11,115 TOTAL: $11,115
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Shapiro, I. I. ARC/Hall, C. F. 11-Astronomy
ARC/Porter, D. L.

NAS 2-9151 **Massachusetts Institute of Technology** **2421**
Differential long base interferometery experiment participation
Period *Obligations*
04/13/76-07/31/76 FY76: $28,300 TOTAL: $28,300
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Counselman, C.C., III ARC/Raymos, R. 11-Astronomy

NAS 3-17534 **Massachusetts Institute of Technology** **2422**
Development and test of a polymeric early warning fire alarm device
Period *Obligations*
09/17/73-09/16/74 FY76: TOTAL: $56,032
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Senturia, S. D. LERC/Hacker, P. T. 19-Phys Sci, NEC

NASA'S UNIVERSIt a PROGRAM
MASSACHUSETTS (Continued)

NAS 5-11062 **Massachusetts Institute of Technology** 2423
IMP H&J plasma experiment
Period *Obligations*
05/17/68-11/01/76 FY76: TOTAL: $2,039,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bridge, H. S. GSFC/Davis, M. A. 13-Physics

NAS 5-11082 **Massachusetts Institute of Technology** 2424
Studies and design for a rotating wheel experiment to provide a two color survey of the positions and time variations of cosmic X-ray sources
Period *Obligations*
06/30/67-06/30/75 FY76: TOTAL: $2,090,427
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clark, G. W. GSFC/Ostaff, W. A. 19-Phys Sci, NEC

NAS 5-11450 **Massachusetts Institute of Technology** 2425
An experiment to perform X-ray astronomy on the SAS-C spacecraft
Period *Obligations*
06/16/71-06/30/77 FY76: $924,311 TOTAL: $9,007,472
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clark, G. W. GSFC/Piterski, N. J. 11-Astronomy

NAS 5-21980 **Massachusetts Institute of Technology** 2426
Nimbus F scanning microwave spectrometer data reduction and analysis
Period *Obligations*
01/25/74-02/28/77 FY76: $78,816 TOTAL: $493,816
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Staelin, D. H. GSFC/Ratliff, R. B. 31-Atmos Sci

NAS 5-22485 **Massachusetts Institute of Technology** 2427
Microwave spectrometer for meterological observations from satellites
Period *Obligations*
06/26/75-09/30/76 FY76: TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Shive, J. GSFC/Staelin, D. 19-Phys Sci, NEC

NAS 5-22915 **Massachusetts Institute of Technology** 2428
Nimbus G support for solar backscattered ultraviolet and total ozone mapping system
Period *Obligations*
01/28/76-01/28/79 FY76: $18,783 TOTAL: $18,783
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cunnold, S. GSFC/Heath, D. F. 31-Atmos Sci

NAS 5-22929 **Massachusetts Institute of Technology** 2429
Nimbus-G scanning multichannel microwave radiometer sensor
Period *Obligations*
01/28/76-12/28/79 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Staelin, D. H. GSFC/Gloersen, P. 41-Aero Engr

NAS 5-23624 **Massachusetts Institute of Technology** 2430
Participation in transient source survey study
Period *Obligations*
06/24/76-11/09/76 FY76: $13,000 TOTAL: $13,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bradt, H. V. GSFC/Weinreb, M. B. 11-Astronomy

NAS 8-27972 **Massachusetts Institute of Technology** 2431
Design, development, & operations of the AXR-2 integrated modulation collimator experiment under the HEAO program
Period *Obligations*
06/23/72-04/15/78 FY76: $250,689 TOTAL: $549,909
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bradt, H. V. MSFC/Bodie, W. G. 11-Astronomy
MSFC/Gustin, R. A.

NAS 8-27975 **Massachusetts Institute of Technology** 2432
Design and development of the AGR-5 high energy X-ray experiment under the HEAO program
Period *Obligations*
06/23/72-04/15/78 FY76: $129,000 TOTAL: $1,062,672
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lewin, W. H. MSFC/Jordan, W. E. 11-Astronomy
MSFC/Jones, J. B.

NAS 8-30301 **Massachusetts Institute of Technology** 2433
Capability and limitations of relativistic gravity measurements using radio astronomy methods
Period *Obligations*
12/01/73-06/30/75 FY76: TOTAL: $6,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Boyd, P. MSFC/Decker, R. 13-Physics
Counselman, C. C., III MSFC/Hale, D. P.

NAS 8-30537 **Massachusetts Institute of Technology** 2434
Solidification (crystal growth) in the absence of gravitational forces
Period *Obligations*
12/03/73-11/30/76 FY76: $50,000 TOTAL: $200,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gatos, H. C. MSFC/Davidson, M. C.
47-Materials Engr
Whitt, A. F. MSFC/Zwiener, J. W.

NAS 8-30576 **Massachusetts Institute of Technology** 2435
Quantitative determination of zero-effects on electronic materials processing
Period *Obligations*
12/10/73-09/30/76 FY76: $32,500 TOTAL: $117,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gatos, H. C. MSFC/Adams, W. R. 19-Phys Sci, NEC
Witt, A. F. MSFC/Boese, A.

NASA'S UNIVERSITY PROGRAM
MASSACHUSETTS (Continued)

NAS 8-30752 Massachusetts Institute of Technology 2436

Design, development and operations of the HEAO Mission B telescope experiment

Period	Obligations	
06/01/74-12/31/79	FY76: $694,000	TOTAL: $1,437,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Clark, G. W. Bradt, H. V. Cabizares, C. R.	MSFC/Manning, H. S. MSFC/Power, J. A.	11-Astronomy

NAS 8-31149 Massachusetts Institute of Technology 2437

Earth simulation experiment for cloud physics laboratory on spacelab or shuttle

Period	Obligations	
12/03/74-05/30/76	FY76:	TOTAL: $24,960
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hart, J. E.	MSFC/Fichtl, G. H. MSFC/Cliff, W. C.	32-Geological Sci

NAS 8-31350 Massachusetts Institute of Technology 2438

Uniform dispersions of crystallization processing

Period	Obligations	
07/01/75-07/31/77	FY76: $180,000	TOTAL: $236,120
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Uhlmann, D. R.	MSFC/Chassay, R. P.	47-Materials Engr

NAS 8-31552 Massachusetts Institute of Technology 2439

Contact and coalescence of viscous and viscoelastic bodies

Period	Obligations	
11/01/75-08/01/77	FY76: $68,000	TOTAL: $68,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hopper, R. W.	MSFC/Reeves, F. A. MSFC/Snyder, R. S.	47-Materials Engr

NAS 9-12334 Massachusetts Institute of Technology 2440

Apollo passive seismic experiment

Period	Obligations	
01/07/72-01/31/77	FY76: $110,470	TOTAL: $425,638
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Toksoz, M. N.	JSC/Eichelman, W. F.	31-Atmos Sci

NAS 9-12485 Massachusetts Institute of Technology 2441

Mechanisms of deterioration of nutrients

Period	Obligations	
03/17/72-04/01/77	FY76: $50,000	TOTAL: $275,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Flink, J. M.	JSC/Heidelbaugh, N. D.	53-Other Medical

NASW 2787 Massachusetts Institute of Technology 2442

Study in the area of international networking aspects and implications of high data rates

Period	Obligations	
05/02/75-05/31/76	FY76:	TOTAL: $40,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-EC/Freibaum, J.	45-Elec Engr

NGL 22-009-003 Massachusetts Institute of Technology 2443

Mechanisms of alloy strengthening by fine particle dispersions emphasizing reduction of nonrefractory oxides, stability of metals oxide systems & solid solution in metal-metal oxide alloys

Period	Obligations	
11/15/70-01/14/77	FY76:	TOTAL: $1,013,770
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Grant, N. J.	LERC/Quatinetz, M.	47-Materials Engr

NGL 22-009-013 Massachusetts Institute of Technology 2444

Research on problems of communication in space environment

Period	Obligations	
12/27/62-10/31/78	FY76: $70,000	TOTAL: $1,346,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kennedy, R. S.	HQ-RE/Alsberg, H. GSFC/McAvoy, N.	45-Elec Engr

NGL 22-009-015 Massachusetts Institute of Technology 2445

Theoretical and experimental investigations of interplanetary medium and in gamma ray astronomy

Period	Obligations	
01/01/63-12/31/77	FY76:	TOTAL: $4,159,498
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bridge, H. S.	HQ-ST/Schmerling, E. R. HQ-SA/Opp, A. G.	13-Physics

NGL 22-009-016 Massachusetts Institute of Technology 2446

Electromagnetic investigations of planetary and solar atmospheres and the lunar surface

Period	Obligations	
05/01/63-04/30/75	FY76:	TOTAL: $1,391,075
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barrett, A. H.	HQ-SL/Brunk, W. E.	32-Geological Sci

NGL 22-009-019 Massachusetts Institute of Technology 2447

Multidisciplinary research in space-related Bayou la Fourche region of south Louisiana

Period	Obligations	
09/27/63-06/30/75	FY76:	TOTAL: $8,051,886
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harrington, J. V.	HQ-P/Carter, C. H.	99-Multi-Discip

NGL 22-009-124 Massachusetts Institute of Technology 2448

Control optimization stabilization and computation of algorithms for space applications

Period	Obligations	
03/30/66-08/31/78	FY76: $70,000	TOTAL: $670,289
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Athans, M. Willsky, A. S. Mitter, S. K.	ARC/Doolin, B. F. ARC/Erzberger, H.	49-Engr, NEC

NGL 22-009-125 Massachusetts Institute of Technology 2449
Studies on the relationship between crystalline structure and superconductivity

Period	*Obligations*	
05/05/66-03/31/77	FY76:	TOTAL: $279,624
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Gatos, H. C.	MSFC/Dalins, I. MSFC/Stern, H. E.	13-Physics

NGL 22-009-187 Massachusetts Institute of Technology 2450
Lunar geophysics, as related to the Apollo applications program

Period	*Obligations*	
09/02/66-02/28/78	FY76:	TOTAL: $638,782
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Press, F. Burns, R. G. Counselman, C. C., III	HQ-SM/Kosofsky, L. J. HQ-SM/Roberson, F. I.	32-Geological Sci

NGL 22-009-308 Massachusetts Institute of Technology 2451
Maturation and development of mechanisms of orientation and postural control

Period	*Obligations*	
12/01/67-08/31/78	FY76: $30,000	TOTAL: $756,646
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Teuber, H. L. Held, R.	ARC/Daunton, N. G.	69-Psych, NEC

NGL 22-009-383 Massachusetts Institute of Technology 2452
Research in propulsion and power generation

Period	*Obligations*	
01/16/69-08/31/78	FY76: $70,000	TOTAL: $850,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Kerrebrock, J. L. Oliver, D. A. McCune, J. E.	LERC/McNally, W. D.	41-Aero Engr

NGL 22-009-521 Massachusetts Institute of Technology 2453
Composition and structure of planetary atmospheres

Period	*Obligations*	
08/10/70-06/30/78	FY76: $82,538	TOTAL: $444,449
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Lewis, J. S.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 22-009-548 Massachusetts Institute of Technology 2454
Flight control systems research

Period	*Obligations*	
08/17/70-02/28/77	FY76: $30,000	TOTAL: $312,818
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Whitaker, H. D.	DFRC/Szalai, K. J.	41-Aero Engr

NGL 22-009-638 Massachusetts Institute of Technology 2455
Research in space science

Period	*Obligations*	
03/03/72-02/28/79	FY76: $200,000	TOTAL: $1,000,000
Prin. Invest	*NASA Tech Officer*	*CASE Category*
McCarthy, J. F., Jr.	HQ-P/Carter, C. H.	99-Multi-Discip

NGL 22-009-640 Massachusetts Institute of Technology 2456
Joint university research program on future air transportation technological needs

Period	*Obligations*	
11/16/71-10/31/78	FY76: $70,000	TOTAL: $319,999
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Simpson, R. W. Hollister, W. M.	LARC/Reid, H. J., Jr. LARC/Mace, W. D.	41-Aero Engr

NGR 22-009-005 Massachusetts Institute of Technology 2457
Detection & identification of organic matter by mass spectrometry

Period	*Obligations*	
12/01/61-06/30/76	FY76: $75,000	TOTAL: $865,762
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Biemann, K.	HQ-SB/Young, R. S.	51-Biology

NGR 22-009-102 Massachusetts Institute of Technology 2458
Investigation of the effect of space environment on replica gratings

Period	*Obligations*	
06/28/66-12/01/77	FY76:	TOTAL: $193,638
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Biemann, K.	HQ-SB/Young, R. S.	42-Astro Engr

NGR 22-009-277 Massachusetts Institute of Technology 2459
The prebiotic synthesis of polynucleotides and polynucleotide-directed polypeptides

Period	*Obligations*	
12/01/67-06/30/76	FY76: $40,000	TOTAL: $429,802
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Rich, A.	HQ-SB/Young, R. S.	12-Chemistry

NGR 22-009-339 Massachusetts Institute of Technology 2460
Investigation of containment/control of fragments from bursting turbine rotors

Period	*Obligations*	
06/14/68-11/01/77	FY76: $79,918	TOTAL: $549,915
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Witmer, E. A.	LERC/Siewert, R. D.	41-Aero Engr

NGR 22-009-350 Massachusetts Institute of Technology 2461
Spectral reflectance of planetary surfaces

Period	*Obligations*	
03/25/69-08/31/74	FY76:	TOTAL: $255,700
Prin. Invest	*NASA Tech Officer*	*CASE Category*
McCord, T. B.	HQ-SM/Bryson, R. P. HQ-SM/Allenby, R. J.	32-Geological Sci

NGR 22-009-378 Massachusetts Institute of Technology 2462
Study of pollutants from jet aircraft

Period	*Obligations*	
02/14/69-09/30/76	FY76: $109,701	TOTAL: $513,088
Prin. Invest	*NASA Tech Officer*	*CASE Category*
Heywood, J. B. Chigier, N. A.	LERC/Mularz, E. J. LERC/Jones, R. E.	43-Chem Engr

NGR 22-009-473 Massachusetts Institute of Technology 2463

Planetary astronomy

Period	Obligations	
06/10/70-12/31/76	FY76: $76,500	TOTAL: $499,100

Prin Invest	NASA Tech Officer	CASE Category
McCord, T. B.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGR 22-009-526 Massachusetts Institute of Technology 2464

Astronomy in the region between 1 mm to 0.1 mm wavelengths

Period	Obligations	
09/22/70-09/30/76	FY76: $55,000	TOTAL: $297,700

Prin Invest	NASA Tech Officer	CASE Category
Weiss, R. Muehlner, D. J.	HQ-SA/Boggess, N. W. HQ-SA/Roman, N. G.	11-Astronomy

NGR 22-009-540 Massachusetts Institute of Technology 2465

Lunar sample analysis

Period	Obligations	
02/08/71-01/31/77	FY76: $60,000	TOTAL: $431,325

Prin Invest	NASA Tech Officer	CASE Category
Simmons, M. G.	JSC/Harris, J. W.	13-Physics

NGR 22-009-551 Massachusetts Institute of Technology 2466

Lunar sample analysis

Period	Obligations	
02/11/71-01/31/77	FY76: $51,000	TOTAL: $297,300

Prin Invest	NASA Tech Officer	CASE Category
Burns, R. G.	JSC/Harris, J. W.	12-Chemistry

NGR 22-009-583 Massachusetts Institute of Technology 2467

Spectroscopy of the asteroids

Period	Obligations	
10/26/71-09/30/76	FY76: $30,000	TOTAL: $130,000

Prin Invest	NASA Tech Officer	CASE Category
McCord, T. B.	HQ-SL/Fellows, R. F. HQ-SL/Donn, B. D.	11-Astronomy

NGR 22-009-627 Massachusetts Institute of Technology 2468

Control of serotonin-containing neurons in the brain, by plasma tryptophan

Period	Obligations	
08/04/71-10/31/76	FY76: $68,503	TOTAL: $311,503

Prin Invest	NASA Tech Officer	CASE Category
Wurtman, R. J. Fernstrom, J. Danellis, J. V. Lynch, H. J.	ARC/Winget, C. M.	53-Other Medical

NGR 22-009-646 Massachusetts Institute of Technology 2469

Lunar sample analysis

Period	Obligations	
06/16/71-01/31/77	FY76: $74,600	TOTAL: $355,096

Prin Invest	NASA Tech Officer	CASE Category
Uhlmann, D. R.	JSC/Harris, J. W.	47-Materials Engr

NGR 22-009-672 Massachusetts Institute of Technology 2470

Ground-based radar study of the moon and planets

Period	Obligations	
03/06/72-10/31/76	FY76:	TOTAL: $175,600

Prin Invest	NASA Tech Officer	CASE Category
Pettengill, G. H.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGR 22-009-701 Massachusetts Institute of Technology 2471

Integration of visual and motion requirements for flight simulation and ride quality investigation

Period	Obligations	
05/18/72-11/30/76	FY76:	TOTAL: $328,000

Prin Invest	NASA Tech Officer	CASE Category
Young, L. R.	LARC/Queijo, M. J. LARC/Miller, G. K., Jr.	41-Aero Engr

NGR 22-009-718 Massachusetts Institute of Technology 2472

Spectroscopic observations of the moon, asteroids and planets from the NASA 91.5 cm airborne telescope

Period	Obligations	
03/01/73-07/31/76	FY76:	TOTAL: $60,000

Prin Invest	NASA Tech Officer	CASE Category
McCord, T. B. Kleinmann, S. G.	ARC/Cameron, R. M. ARC/Gillespie, C. M., Jr.	11-Astronomy

NGR 22-009-723 Massachusetts Institute of Technology 2473

Bosch process and evaluation of Bosch carbon as a sorbent

Period	Obligations	
09/19/72-09/30/76	FY76: $25,085	TOTAL: $94,556

Prin Invest	NASA Tech Officer	CASE Category
Reid, R. C. Modell, M.	ARC/Quattrone, P. D.	12-Chemistry

NGR 22-009-727 Massachusetts Institute of Technology 2474

Study in numerical modeling of atmospheric phenomena

Period	Obligations	
02/01/73-12/31/79	FY76: $90,000	TOTAL: $325,863

Prin Invest	NASA Tech Officer	CASE Category
Stone, P. H. Charney, J. G.	GSFC/Halem, M.	31-Atmos Sci

NGR 22-009-730 Massachusetts Institute of Technology 2475

X-ray astronomy experiments from sounding rockets

Period	Obligations	
03/22/72-08/31/76	FY76: $175,000	TOTAL: $560,000

Prin Invest	NASA Tech Officer	CASE Category
Bradt, H. V. Rappaport, S.	GSFC/Bissell, E. E., Jr. HQ-SA/Opp, A. G.	11-Astronomy

NGR 22-009-733 Massachusetts Institute of Technology 2476

Investigation of pilot's role & display requirements in automatic landings

Period	Obligations	
10/30/72-08/31/76	FY76: $60,000	TOTAL: $224,427

Prin Invest	NASA Tech Officer	CASE Category
Curry, R. E.	ARC/Wempe, T. E. ARC/Lauber, J. K.	41-Aero Engr

MASSACHUSETTS (Continued)

NGR 22-009-735 **Massachusetts Institute of Technology** **2477**
EOTVOS experiment in earth orbit and related studies

Period	*Obligations*	
06/07/73-06/30/74	FY76:	TOTAL: $100,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chapman, P. K.	HQ-MT/Hall, H.	13-Physics

NGR 22-009-741 **Massachusetts Institute of Technology** **2478**
Optical and infrared lasers

Period	*Obligations*	
12/01/72-02/28/77	FY76: $30,060	TOTAL: $170,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Javan, A.	GSFC/McElroy, J. H.	13-Physics

NGR 22-009-766 **Massachusetts Institute of Technology** **2479**
Monitoring spacecraft atmosphere contaminants by laser absorption spectroscopy

Period	*Obligations*	
01/01/74-12/31/76	FY76: $1,900	TOTAL: $56,455
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Steinfeld, J. I.	ARC/Quattrone, P. D. ARC/Wydeven, T.	12-Chemistry

NGR 22-009-778 **Massachusetts Institute of Technology** **2480**
Low spectral resolution studies by large space telescope

Period	*Obligations*	
10/01/73-02/29/76	FY76: $2,900	TOTAL: $13,375
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCord, T. B.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NGR 22-009-781 **Massachusetts Institute of Technology** **2481**
Exploitation of advanced composite materials to lightly loaded structures

Period	*Obligations*	
04/16/73-10/31/76	FY76: $24,979	TOTAL: $99,752
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mar, J. W.	LARC/Rhodes, M. D. LARC/Stein, M.	41-Aero Engr

NGR 22-009-785 **Massachusetts Institute of Technology** **2482**
Research related to the X-ray astronomy experiment on the OSO-7

Period	*Obligations*	
06/20/73-08/15/75	FY76:	TOTAL: $62,614
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Clark, G. W.	HQ-SA/Opp, A. G. HQ-SA/Roman, N. G.	13-Physics

NGR 22-009-790 **Massachusetts Institute of Technology** **2483**
Remote compositional mapping of the lunar surface

Period	*Obligations*	
06/22/73-01/31/79	FY76: $586,500	TOTAL: $1,210,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCord, T. B.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NGR 22-009-798 **Massachusetts Institute of Technology** **2484**
Role of brain areas controlling eye-head coordination in monkeys

Period	*Obligations*	
09/01/73-08/31/76	FY76: $30,000	TOTAL: $90,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bizzi, E.	ARC/Daunton, N. G. ARC/Billingham, J.	51-Biology

NGR 22-009-799 **Massachusetts Institute of Technology** **2485**
Liquid phase catalytic reforming of organic spacecraft waste

Period	*Obligations*	
10/01/73-08/14/76	FY76: $31,675	TOTAL: $88,515
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Modell, M.	ARC/Quattrone, P. D.	12-Chemistry

NGR 22-009-805 **Massachusetts Institute of Technology** **2486**
Flow-generated noise and aeroacoustic instabilities in ducts and silencers

Period	*Obligations*	
09/01/73-08/31/76	FY76:	TOTAL: $45,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ingard, K. U.	LERC/Baumeister, K. J. LERC/Rice, E. J.	41-Aero Engr

NGR 22-009-818 **Massachusetts Institute of Technology** **2487**
Aerodynamics of bird flight

Period	*Obligations*	
09/01/73-08/31/78	FY76: $24,923	TOTAL: $78,133
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Widnall, S. E.	LARC/Hood, D. R. LARC/Margason, R. J.	41-Aero Engr

NGR 22-009-826 **Massachusetts Institute of Technology** **2488**
Neural orientation growth and maintenance

Period	*Obligations*	
09/01/73-08/31/76	FY76: $30,000	TOTAL: $90,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nauta, W. J. Teuber, H. L.	ARC/Daunton, N. G.	51-Biology

NGR 22-009-839 **Massachusetts Institute of Technology** **2489**
Wideband recording system for very long baseline interferometry

Period	*Obligations*	
04/01/74-08/31/76	FY76: $56,000	TOTAL: $173,690
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Counselman, C.C., III Shapiro, I. I.	GSFC/Clark, T. A.	99-Multi-Discip

NSG 1018 **Massachusetts Institute of Technology** **2490**
Multiple model adaptive control method for flight control systems

Period	*Obligations*	
03/06/74-12/05/76	FY76: $60,000	TOTAL: $147,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Athans, M.	LARC/Gera, J. LARC/Elliott, J. R.	41-Aero Engr

MASSACHUSETTS (Continued)

NSG 1048 **Massachusetts Institute of Technology** **2491**

Wet photoelectric cells, conversion, transfer and storage of intense optical energy

Period	*Obligations*	
05/15/74-05/14/77	FY76: $57,000	TOTAL: $172,815
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Wrighton, M. S.	LARC/Hess, R. V. LARC/Byvik, C. E.	12-Chemistry

NSG 1112 **Massachusetts Institute of Technology** **2492**

A dual-mode generalized ratio approach to self-reorganizing digital flight control system design

Period	*Obligations*	
10/01/74-07/31/76	FY76: $40,000	TOTAL: $82,500
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Willsky, A. S.	LARC/Montgomery, R.C.	41-Aero Engr

NSG 1190 **Massachusetts Institute of Technology** **2493**

Characterization of high energy gap semi-conductor

Period	*Obligations*	
10/01/75-09/30/78	FY76:	TOTAL: $50,000
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Gatos, H. C.	LARC/Byvik, C. E. LARC/Conway, E. J.	47-Materials Engr

NSG 1217 **Massachusetts Institute of Technology** **2494**

Improvement of composite fracture toughness by fusible fibers and coating

Period	*Obligations*	
08/01/75-07/31/76	FY76: $34,330	TOTAL: $34,300
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Williams, J. H., Jr.	LARC/Fichter, W. B. LARC/Davidson, J. R.	49-Engr, NEC

NSG 1219 **Massachusetts Institute of Technology** **2495**

Research on unsteady, nonlinear transonic flow

Period	*Obligations*	
07/10/75-07/09/77	FY76: $28,621	TOTAL: $28,621
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Harris, W. L.	LARC/Bland, S. R. LARC/Bennett, R. M.	41-Aero Engr

NSG 1292 **Massachusetts Institute of Technology** **2496**

Study feasibility of applying digital information processing to a magnetic model suspension and balance for use with wind tunnels

Period	*Obligations*	
04/01/76-10/31/77	FY76: $29,152	TOTAL: $29,152
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Covert, E. E. Whitaker, H. P.	LARC/Boyden, R. P. LARC/Kilgore, R. A.	41-Aero Engr

NSG 1299 **Massachusetts Institute of Technology** **2497**

Survey of the potential users of the long duration exposure facilities

Period	*Obligations*	
04/01/76-09/30/76	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
McCarthy, J. F., Jr.	LARC/O'Neal, R. L. LARC/Dibattista, J. D.	99-Multi-Discip

NSG 2010 **Massachusetts Institute of Technology** **2498**

Study of impact on space shuttle on stratospheric ozone

Period	*Obligations*	
03/01/74-08/30/76	FY76: $92,000	TOTAL: $301,910
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Prinn, R. G.	ARC/Reynolds, R. T.	31-Atmos Sci

NSG 2032 **Massachusetts Institute of Technology** **2499**

Research on habituation to novel visual-vestibular environments with particular reference to space flight

Period	*Obligations*	
07/01/74-08/31/76	FY76: $80,000	TOTAL: $170,000
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Young, L. R. Oman, C. M. Frishkopf, L. S.	ARC/Daunton, N. G.	59-Life Sci, NEC

NSG 2076 **Massachusetts Institute of Technology** **2500**

Workshop on systems reliability issues for aircraft

Period	*Obligations*	
03/01/75-09/30/76	FY76:	TOTAL: $11,770
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Athans, M.	ARC/Doolin, B. F.	49-Engr, NEC

NSG 2095 **Massachusetts Institute of Technology** **2501**

High speed rotor noise research

Period	*Obligations*	
08/01/75-07/31/77	FY76: $31,490	TOTAL: $31,490
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Harris, W. L. Lee, Y. A.	ARC/Rabbott, J. P., Jr. ARC/Stroub, R. H.	41-Aero Engr

NSG 2118 **Massachusetts Institute of Technology** **2502**

Experimentation in supervisory controls flight management

Period	*Obligations*	
11/01/75-10/31/76	FY76: $54,710	TOTAL: $54,710
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Sheridan, T. B.	ARC/Wempe, T. E. ARC/Huff, E. M.	99-Multi-Discip

NSG 2129 **Massachusetts Institute of Technology** **2503**

The impact of changing technology on the demand for air transportation

Period	*Obligations*	
12/01/75-11/30/76	FY76: $99,241	TOTAL: $99,241
Prin. Invest.	*NASA Tech Officer*	*CASE Category*
Taneja, N. K. Simpson, R. W. Eafsey, K. N.	ARC/Williams, L. J. ARC/Waters, M. H.	41-Aero Engr

NASA'S UNIVERSITY PROGRAM
MASSACHUSETTS (Continued)

NSG 2142 **Massachusetts Institute of Technology** **2504**
Helicopter rotor noise

Period	Obligations	
07/01/76-06/30/77	FY76: $41,392	TOTAL: $41,392
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Widnall, S. E.	ARC/Rabbott, J. P., Jr. ARC/Biggers, J. C.	41-Aero Engr

NSG 3017 **Massachusetts Institute of Technology** **2505**
Silicon surface phenomena related to energy conversion

Period	Obligations	
05/01/74-07/31/76	FY76: $40,500	TOTAL: $81,100
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gatos, H. C.	LERC/Weinberg, I. LERC/Brandhorst, H. W., Jr.	13-Physics

NSG 3044 **Massachusetts Institute of Technology** **2506**
Special finite elements for the analysis of flaw growth and fracture in fiber composites

Period	Obligations	
02/01/75-05/01/77	FY76: $69,610	TOTAL: $139,210
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McGarry, F. G. Mandell, J. F.	LERC/Chamis, C. C. LERC/Smith, G. T.	49-Engr, NEC

NSG 3046 **Massachusetts Institute of Technology** **2507**
Directional solidification of gamma/gamma prime-delta in situ composites

Period	Obligations	
06/30/75-07/01/77	FY76: $44,660	TOTAL: $89,623
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Flemings, M. C. Young, K. P.	LERC/Scheuermann, C. M.	47-Materials Engr

NSG 3061 **Massachusetts Institute of Technology** **2508**
A chromatographic analysis of the response of polymeric fire-detection devices to combustion

Period	Obligations	
05/01/75-12/31/76	FY76:	TOTAL: $85,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Senturia, S. D. Kastner, M. A. Fonstad, C. G.	LERC/Gluyas, R. E. LERC/Serafini, T. T.	19-Phys Sci, NEC

NSG 3064 **Massachusetts Institute of Technology** **2509**
Monitoring of elastic stresses by acoustic emission

Period	Obligations	
07/01/75-06/30/77	FY76: $37,890	TOTAL: $78,420
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Williams, J. H., Jr.	LERC/Vary, A.	47-Materials Engr

NSG 3076 **Massachusetts Institute of Technology** **2510**
Effects of fuel composition on soot formation in combusters

Period	Obligations	
09/01/75-10/01/76	FY76: $44,850	TOTAL: $44,850
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Keck, J. C. Hoult, D. P.	LERC/Norgren, C. T. LERC/Grobman, J. S.	41-Aero Engr

NSG 3079 **Massachusetts Institute of Technology** **2511**
Development of techniques for turbomachinery flutter clearance

Period	Obligations	
07/15/75-07/14/76	FY76: $49,940	TOTAL: $49,940
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kerrebrock, J. L. Dugundji, J.	LERC/Adamczyk, J. J.	41-Aero Engr

NSG 3088 **Massachusetts Institute of Technology** **2512**
Submillimeter laser Thomson scattering system for measurement of ion temperatures in Summa

Period	Obligations	
12/11/75-03/01/77	FY76: $60,000	TOTAL: $60,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lax, B. Cohn, D. R.	LERC/Reinmann, J. J.	13-Physics

NSG 3093 **Massachusetts Institute of Technology** **2513**
Fluorescent visualization for turbomachine research

Period	Obligations	
01/05/76-01/05/77	FY76: $84,820	TOTAL: $84,820
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kerrebrock, J. L. Epstein, A. H.	LERC/McNally, W. D.	41-Aero Engr

NSG 3102 **Massachusetts Institute of Technology** **2514**
Soot information and burnout in flames

Period	Obligations	
03/15/76-03/14/77	FY76: $43,390	TOTAL: $43,390
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Howard, J. B.	LERC/Norgren, C. T.	43-Chem Engr

NSG 5076 **Massachusetts Institute of Technology** **2515**
Numerical study of the atmospheric circulation of Venus

Period	Obligations	
08/17/75-08/16/76	FY76: $24,000	TOTAL: $24,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rivas, E. K. Stone, P. H.	GSFC/Hansen, J. E.	11-Astronomy

NSG 5095 **Massachusetts Institute of Technology** **2516**
Assessment of the effects of attenuation and beam width on weather observations

Period	Obligations	
02/01/76-01/31/77	FY76: $15,370	TOTAL: $15,370
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Austin, P. M. Geotis, S. G.	GSFC/Wexler, R.	31-Atmos Sci

NSG 5113 Massachusetts Institute of Technology 2517

Research in stratospheric dynamics

Period	*Obligations*	
07/01/76-06/30/77	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stone, P. H.	GSFC/Hansen, J. E.	31-Atmos Sci

NSG 7010 Massachusetts Institute of Technology 2518

Precision selenodesy and lunar libration through very long baseline interferometry observation of ALSEPS

Period	*Obligations*	
01/01/74-03/31/77	FY76: $101,500	TOTAL: $214,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Counselman, C. C., III Shapiro, I. I.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7048 Massachusetts Institute of Technology 2519

Structure and composition of a lunar region: A synthesis

Period	*Obligations*	
03/01/74-02/28/77	FY76: $106,700	TOTAL: $149,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCord, T. B.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7077 Massachusetts Institute of Technology 2520

Chemical aspects of lunar origin and physical studies on lunar and meteoritic materials

Period	*Obligations*	
07/01/74-05/31/78	FY76:	TOTAL: $58,900
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lewis, J. S. Brecher, A. Skibo, D. N.	HQ-SL/Williams, R. J.	32-Geological Sci

NSG 7081 Massachusetts Institute of Technology 2521

Models of the composition, structure and evolution of the lunar interior

Period	*Obligations*	
06/01/74-02/28/79	FY76: $288,340	TOTAL: $438,410
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Toksoz, M. N. Dickey, J. S., Jr. Frey, F. A.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7091 Massachusetts Institute of Technology 2522

Experimental relativity and gravitation study

Period	*Obligations*	
09/15/74-12/31/75	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weiss, R.	HQ-SA/Roman, N. G.	11-Astronomy

NSG 7115 Massachusetts Institute of Technology 2523

Reanalysis of lunar data for study of lunar electromagnetic response

Period	*Obligations*	
02/01/75-04/30/76	FY76:	TOTAL: $24,300
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Madden, T. R.	HQ-SL/Williams, R. J.	32-Geological Sci

NSG 7118 Massachusetts Institute of Technology 2524

Very long baseline interferometry observations of ALSEP transmitters

Period	*Obligations*	
01/01/75-02/28/77	FY76: $23,700	TOTAL: $58,176
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Counselman, C. C., III	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7186 Massachusetts Institute of Technology 2525

An observatory search for and study of new IR sources reported in the AFCRL catalogue

Period	*Obligations*	
12/01/75-11/30/76	FY76: $30,000	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kleinmann, S. G.	HQ-SA/Boggess, N. W.	11-Astronomy

NSG 7227 Massachusetts Institute of Technology 2526

Computational aspects in the interpretation of geological formations

Period	*Obligations*	
04/15/76-04/14/77	FY76: $16,272	TOTAL: $16,272
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Winston, P. H. Weinstein, M.	HQ-RE/Gevarter, W. B. JPL/Whitney, W. M.	49-Engr, NEC

W-13995 Massachusetts Institute of Technology 2527

Second international conference on Rapidly Quenched Metals

Period	*Obligations*	
11/17/75-06/30/76	FY76: $2,000	TOTAL: $2,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-RW/Gangler, J. J.	47-Materials Engr

NCA 2-785401 Tufts University 2528

Multidimensional scaling techniques applied to flight management concept

Period	*Obligations*	
06/20/74-12/31/75	FY76: $1,377	TOTAL: $1,877
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kreifieldt, J. G.	ARC/Zill, L. P.	41-Aero Engr

NCA 2-785501 Tufts University 2529

Effects of heterogenous traffic information display

Period	*Obligations*	
06/15/75-08/31/76	FY76:	TOTAL: $17,621
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kreifieldt, J. G.	ARC/Zill, L. P.	41-Aero Engr

NASA'S UNIVERSITY PROGRAM
MASSACHUSETTS (Continued)

NCA 2-785601 **Tufts University** **2530**
Investigation of the effects of a moving acoustic medium on jet noise measurements

Period	*Obligations*	
07/01/75-08/31/76	FY76:	TOTAL: $22,320
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cole, J. E., III	ARC/Zill, L. P.	41-Aero Engr

NGR 22-012-026 **Tufts University** **2531**
Investigation of atraumatic techniques for monitoring cardiovascular status and conditioning

Period	*Obligations*	
03/07/72-10/01/76	FY76: $30,000	TOTAL: $155,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spodick, D. H.	JSC/Jackson, M. M.	53-Other Medical

NSG 2156 **Tufts University** **2532**
Study of pilot controller interaction under various simulated advanced ATC and navigation concepts

Period	*Obligations*	
06/01/76-05/31/77	FY76: $47,898	TOTAL: $47,898
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kreifieldt, J. G.	ARC/Wempe, T. E.	99-Multi-Discip

NSG 1295 **University of Lowell** **2533**
Structural response and input identification

Period	*Obligations*	
04/01/76-03/31/77	FY76: $28,879	TOTAL: $28,879
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McElman, J. A. O'Callahan, J. C. Epard, S. H.	LARC/Fralich, R. W. LARC/Pinson, L. P.	41-Aero Engr

NAS 2-9129 **University of Massachusetts - Amherst** **2534**
Interdisciplinary scientist and radar team member

Period	*Obligations*	
01/22/76-10/30/76	FY76: $5,536	TOTAL: $5,536
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McGill, G. E.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 5-21871 **University of Massachusetts - Amherst** **2535**
Investigation of ERTS-A data inaccessible regions

Period	*Obligations*	
10/03/72-10/03/74	FY76:	TOTAL: $2,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smith, H. P.	GSFC/Szajna, E. F.	39-Env Sci, NEC

NGL 22-010-018 **University of Massachusetts - Amherst** **2536**
Pulse frequency modulation in control systems

Period	*Obligations*	
03/12/68-01/01/75	FY76:	TOTAL: $131,575
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Monopoli, R. V.	GSFC/Rolinski, A. J.	45-Elec Engr

NGL 22-010-023 **University of Massachusetts - Amherst** **2537**
Theoretical studies of diffuse reflection and transmission of radiation in planetary atmospheres

Period	*Obligations*	
05/24/67-08/31/78	FY76: $49,568	TOTAL: $359,231
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Irvine, W. M.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGL 22-010-025 **University of Massachusetts - Amherst** **2538**
Study of solar chromosphere from balloon altitudes

Period	*Obligations*	
10/24/67-12/31/76	FY76: $9,075	TOTAL: $585,082
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Strong, J.	HQ-ST/Timothy, A. F. HQ-ST/Hunter, W. R.	11-Astronomy

NGL 22-010-089 **University of Massachusetts - Amherst** **2539**
Lunar sample analysis

Period	*Obligations*	
03/16/71-01/31/77	FY76:	TOTAL: $86,675
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Haggerty, S. E.	JSC/Harris, J. W.	13-Physics

NGR 22-010-076 **University of Massachusetts - Amherst** **2540**
Reconnaissance study of large geologic ring structures on Mars

Period	*Obligations*	
05/19/70-08/31/76	FY76: $36,230	TOTAL: $136,004
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McGill, G. E. Wise, D. U.	HQ-SL/Dwornik, S. E. HQ-SL/Wahmann, R.	32-Geological Sci

NAS 5-23520 **Williams College** **2541**
Study of improvement of hydrogen maser frequency standard

Period	*Obligations*	
07/01/76-06/31/77	FY76: $35,500	TOTAL: $35,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Crampton, S. B.	GSFC/Reinhardt, V. S.	13-Physics

NSG 7154 **Worcester Polytechnic Institute** **2542**
Mission-oriented studies of planetary biology

Period	*Obligations*	
10/01/75-09/30/76	FY76: $136,390	TOTAL: $136,390
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Danielli, J. F.	HQ-SB/Young, R. S.	51-Biology

MICHIGAN

NAS 1-6860 **Michigan State University** **2543**
Beam time on 48 meV accelerators

Period	*Obligations*	
11/01/67-11/01/77	FY76:	TOTAL: $6,840
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	LARC/Unavailable	13-Physics

MICHIGAN (Continued)

NGL 23-004-083 **Michigan State University** **2544**

Use of remote sensing for land use policy formulation

Period	*Obligations*	
06/08/72-05/31/79	FY76: $110,000	TOTAL: $660,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Boylan, M. G.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 23-004-091 **Michigan State University** **2545**

A study of structure of a large angle oblique jet impingement flow

Period	*Obligations*	
11/01/73-10/31/76	FY76: $19,957	TOTAL: $59,998
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Foss, J. F.	LARC/Hardin, J. C.	41-Aero Engr

NSG 1138 **Michigan State University** **2546**

An experimental investigation of the initial condition effects on a turbulent shear layer

Period	*Obligations*	
01/01/75-12/31/76	FY76:	TOTAL: $4,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Foss, J. F.	LARC/Hefner, J. N.	41-Aero Engr

NSG 1148 **Michigan State University** **2547**

Development and application of an interferometric system for measuring crack displacements

Period	*Obligations*	
03/01/75-06/30/76	FY76:	TOTAL: $19,168
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sharp, W. N., Jr.	LARC/Elber, W. LARC/Leybold, H. A.	47-Materials Engr

NSG 3101 **Michigan State University** **2548**

Measurements of mixed mode crack surface displacements and comparisons with theory

Period	*Obligations*	
03/15/76-03/14/77	FY76: $17,708	TOTAL: $17,708
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sharp, W. N., Jr. Altiero, N. J., Jr.	LERC/Orange, T. W.	49-Engr, NEC

NAS 1-14394 **University of Michigan - Ann Arbor** **2549**

Science support for the limb infrared monitor of the stratosphere experiment

Period	*Obligations*	
04/09/76-10/31/78	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Drayson, S. R.	LARC/Russell, J. M., III LARC/James, R. L., Jr.	31-Atmos Sci

NAS 2-6057 **University of Michigan - Ann Arbor** **2550**

Vestibular research in space

Period	*Obligations*	
06/30/70-04/30/76	FY76:	TOTAL: $181,530
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Von Baumgarten A, R. J.	ARC/Simmonds, R. C.	61-Biol Aspects

NAS 2-8992 **University of Michigan - Ann Arbor** **2551**

Outer planet atmospheric entry probe supporting research and technology tasks

Period	*Obligations*	
09/22/75-05/17/76	FY76: $29,307	TOTAL: $29,307
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carignan, G. R. Donahue, T. M. Atreya, S. A.	ARC/Lincoln, K. A. ARC/Vojvodich, N. S.	13-Physics

NAS 2-9126 **University of Michigan - Ann Arbor** **2552**

Interdisciplinary scientist, Pioneer/Venus program

Period	*Obligations*	
02/10/76-10/01/76	FY76: $23,465	TOTAL: $23,465
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Donahue, T. M.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 2-9130 **University of Michigan - Ann Arbor** **2553**

Interdisciplinary scientist, Pioneer/Venus program

Period	*Obligations*	
02/09/76-10/01/76	FY76: $14,525	TOTAL: $14,525
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nagy, A. F.	ARC/Hall, C. F. ARC/Porter, D. L.	11-Astronomy

NAS 3-19533 **University of Michigan - Ann Arbor** **2554**

Testing and comparative evaluations of three antenna systems

Period	*Obligations*	
02/14/75-07/31/75	FY76:	TOTAL: $14,059
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ferris, J.	LERC/Wright, D.	42-Astro Engr

NAS 3-20051 **University of Michigan - Ann Arbor** **2555**

Lightweight, low compression aircraft diesel engine

Period	*Obligations*	
06/30/76-06/29/77	FY76: $121,000	TOTAL: $121,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kroeger, R. A.	LERC/Ream, L. W.	46-Mech Engr

NAS 5-11376 **University of Michigan - Ann Arbor** **2556**

Ae-c, d, & e Pelz experiment

Period	*Obligations*	
01/07/71-12/27/77	FY76: $33,000	TOTAL: $991,532
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carignan, G. R.	GSFC/Hedin, A.	31-Atmos Sci

NAS 5-11380 **University of Michigan - Ann Arbor** **2557**

Ae-c, d, and e neutral temperature experiment

Period	*Obligations*	
02/03/71-06/30/77	FY76: $84,807	TOTAL: $948,031
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cliff, R. A. Danchenko, V.	GSFC/Sing, M. L.	31-Atmos Sci

NASA'S UNIVERSITY PROGRAM
MICHIGAN (Continued)

NAS 5-20622 University of Michigan - Ann Arbor 2558
Nitric oxide detector
Period 06/18/74-10/31/76
Obligations FY76: $99,749 TOTAL: $262,741

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Horvath, J. J. Carignan, G. R.	GSFC/Wright, D. U., Jr. GSFC/Theon, J. S.	31-Atmos Sci

NAS 5-20806 University of Michigan - Ann Arbor 2559
Breadboard design and component layout of Pioneer/Venus electron temperature probe signal processor
Period 12/13/74-09/30/75
Obligations FY76: $42,804 TOTAL: $123,982

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carignan, G. R.	GSFC/Krehbiel, J. P.	31-Atmos Sci

NAS 5-20839 University of Michigan - Ann Arbor 2560
Data reduction and analysis of IMP I radio astronomy experiment
Period 02/19/75-07/31/76
Obligations FY76: TOTAL: $29,964

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Haddock, F. T.	GSFC/Davis, M. A.	13-Physics

NAS 5-20939 University of Michigan - Ann Arbor 2561
Laboratory tests and development of mass spectrometer subsystems
Period 02/13/75-06/30/77
Obligations FY76: $77,045 TOTAL: $127,045

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carignan, G. R. Kennedy, B. R.	GSFC/Cooley, J. E. GSFC/Niemann, H. B.	31-Atmos Sci

NAS 5-22441 University of Michigan - Ann Arbor 2562
Stratospheric physics and chemistry workshop
Period 05/15/75-08/30/75
Obligations FY76: TOTAL: $19,953

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carignan, G. R.	GSFC/Spencer, N. W.	13-Physics

NAS 5-22587 University of Michigan - Ann Arbor 2563
Pioneer/Venus electron temperature probe
Period 09/29/75-06/30/78
Obligations FY76: $317,626 TOTAL: $317,626

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brace, L. H.	GSFC/Krehbiel, J. P.	31-Atmos Sci

NAS 5-22861 University of Michigan - Ann Arbor 2564
Fabrication and test of high-speed monolithic integrated pulse amplifier
Period 11/28/75-11/29/76
Obligations FY76: $28,874 TOTAL: $28,874

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
MacNee, A. B. Masnari, N. A.	GSFC/Way, S. H. GSFC/Cooley, J. E.	45-Elec Engr

NAS 5-22875 University of Michigan - Ann Arbor 2565
Particle measurement systems
Period 12/04/75-12/04/76
Obligations FY76: $36,132 TOTAL: $36,132

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
MacNee, A. B. Masnari, N. A.	GSFC/Trainor, J. H.	13-Physics

NAS 5-23006 University of Michigan - Ann Arbor 2566
Atmosphere Explorer visual airglow photometer
Period 08/24/71-11/19/77
Obligations FY76: $121,000 TOTAL: $1,105,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hays, P. B. Carignan, G. R. Shepherd, G. G.	GSFC/Corrigan, J. P.	31-Atmos Sci

NAS 5-23230 University of Michigan - Ann Arbor 2567
Program of aeronautical research utilizing thermosphere probe
Period 06/18/73-07/31/76
Obligations FY76: $75,000 TOTAL: $336,927

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carignan, G. R.	GSFC/Spencer, N. W.	31-Atmos Sci

NAS 5-23267 University of Michigan - Ann Arbor 2568
Pulse circuitry for application to spark chambers
Period 06/21/73-09/13/75
Obligations FY76: TOTAL: $28,684

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ponnamperuma, C. A.	GSFC/Ross, R. W.	45-Elec Engr

NAS 8-30625 University of Michigan - Ann Arbor 2569
Environmental impact of OSS launch vehicle and propulsion programs
Period 05/01/74-12/31/74
Obligations FY76: TOTAL: $25,001

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stedman, D. H. Nelson, A.	MSFC/Devries, L. L. MSFC/Stephens, J. B.	31-Atmos Sci

NAS 8-31397 University of Michigan - Ann Arbor 2570
Definition of lidar requirements and plasma wake and sheath experiments for the AMPS laboratory
Period 03/11/75-09/30/75
Obligations FY76: TOTAL: $49,781

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nagy, A. F. Samir, U.	MSFC/Roberts, W. T. MSFC/Chappell, C. R.	19-Phys Sci, NEC

NAS 8-31772 University of Michigan - Ann Arbor 2571
Definition of atmospheric science experiments and technique - wake zone mapping experiments
Period 02/09/76-08/09/76
Obligations FY76: $27,631 TOTAL: $27,631

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Samir, U. Drayson, S. R. Eusch, T. A.	MSFC/Roberts, W. T. MSFC/Chappell, C. R.	31-Atmos Sci

MICHIGAN (Continued)

NAS 8-31987 University of Michigan - Ann Arbor 2572

Mass spectrometer for induced environment contamination monitor

Period	Obligations	
04/30/76-11/30/79	FY76: $30,000	TOTAL: $30,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Carignan, G. R.	MSFC/Shriver, E. L.	19-Phys Sci, NEC
Maurer, J. C.	MSFC/Williams, J. R.	
Eusch, T. A.		

NCA 2-440601 University of Michigan - Ann Arbor 2573

Development of a hybrid simulation of a rotor model

Period	Obligations	
03/15/76-03/14/77	FY76: $14,300	TOTAL: $14,300

Prin. Invest.	NASA Tech. Officer	CASE Category
Howe, R. M.	ARC/Zill, L. P.	46-Mech Engr

NGL 23-005-005 University of Michigan - Ann Arbor 2574

Research on heat resistant alloys for use in supersonic aircrafts

Period	Obligations	
12/15/60-07/01/75	FY76: $20	TOTAL: $598,006

Prin. Invest.	NASA Tech. Officer	CASE Category
Wilson, D. J.	LERC/Freche, J. C.	47-Materials Engr
	LERC/Harf, F. H.	

NGL 23-005-010 University of Michigan - Ann Arbor 2575

Structural analysis of aircraft tires

Period	Obligations	
01/02/63-12/31/76	FY76:	TOTAL: $357,731

Prin. Invest.	NASA Tech. Officer	CASE Category
Clark, S. R.	LARC/McCarty, J. L.	41-Aero Engr

NGL 23-005-275 University of Michigan - Ann Arbor 2576

Solar research program of McMath-Hulbert observatory and improvement of photoheliographic telescope

Period	Obligations	
04/08/68-06/30/76	FY76: $50,000	TOTAL: $535,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Mohler, O. C.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 23-005-015 University of Michigan - Ann Arbor 2577

Theoretical investigation of space charge waves in ionosphere and space plasma sheath

Period	Obligations	
10/28/63-06/30/76	FY76: $125,000	TOTAL: $1,137,805

Prin. Invest.	NASA Tech. Officer	CASE Category
Nagy, A. F.	HQ-ST/Cauffman, D. P.	31-Atmos Sci
	HQ-ST/Schmerling, E. R.	

NGR 23-005-094 University of Michigan - Ann Arbor 2578

An investigation of plasma kinetics, with emphasis on the interaction between rarefied plasmas and moving bodies

Period	Obligations	
06/26/64-04/30/77	FY76: $32,641	TOTAL: $348,676

Prin. Invest.	NASA Tech. Officer	CASE Category
Liu, W. C.	HQ-SL/Fellows, R. F.	31-Atmos Sci
	HQ-SL/Brunk, W. E.	

NGR 23-005-320 University of Michigan - Ann Arbor 2579

Theoretical and experimental studies of spacecraft space plasma interactions

Period	Obligations	
01/29/69-07/31/76	FY76: $55,000	TOTAL: $352,557

Prin. Invest.	NASA Tech. Officer	CASE Category
Samir, U.	HQ-ST/Schmerling, E. R.	13-Physics

NGR 23-005-360 University of Michigan - Ann Arbor 2580

A program in aeronomy

Period	Obligations	
12/29/69-11/30/76	FY76: $180,000	TOTAL: $1,058,101

Prin. Invest.	NASA Tech. Officer	CASE Category
Sharp, W. E.	GSFC/Bissell, E. E., Jr.	13-Physics
	HQ-ST/Schmerling, E. R.	

NGR 23-005-464 University of Michigan - Ann Arbor 2581

Optical studies of galactic X-ray sources

Period	Obligations	
03/02/71-02/28/77	FY76: $17,344	TOTAL: $90,627

Prin. Invest.	NASA Tech. Officer	CASE Category
Hiltner, W. A.	HQ-SA/Rosendhal, J. D.	11-Astronomy
	HQ-SA/Roman, N. G.	

NGR 23-005-523 University of Michigan - Ann Arbor 2582

Study of flow near the foot of a weak shock terminating a region of supersonic flow

Period	Obligations	
04/20/72-07/31/76	FY76:	TOTAL: $138,469

Prin. Invest.	NASA Tech. Officer	CASE Category
Sichel, M.	LARC/Czarnecki, K. R.	41-Aero Engr
Adamson, T. C., Jr.		
Messiter, A. F.		

NGR 23-005-528 University of Michigan - Ann Arbor 2583

Fiber-reinforced solids possessing great fracture toughness & the role of interfacial strength

Period	Obligations	
07/26/72-07/31/77	FY76: $19,380	TOTAL: $70,041

Prin. Invest.	NASA Tech. Officer	CASE Category
Felbeck, D. K.	LARC/Fichter, W. B.	47-Materials Engr
	LARC/Elber, W.	

NGR 23-005-536 University of Michigan - Ann Arbor 2584

Research in ignition of metals, lubricants, and contaminants in oxygen-rich atmospheres

Period	Obligations	
07/01/72-12/31/76	FY76: $25,000	TOTAL: $120,401

Prin. Invest.	NASA Tech. Officer	CASE Category
Nicholls, J. A.	LERC/Haggard, J. B., Jr.	42-Astro Engr
Adamson, T. C., Jr.		

NGR 23-005-537 University of Michigan - Ann Arbor 2585
Application of Mossbauer spectroscopy to the determination of source material and thermal histories of tektites

Period	Obligations	
06/23/72-05/31/75	FY76:	TOTAL: $45,494
Prin. Invest.	NASA Tech. Officer	CASE Category
Evans, B. J.	HQ-SM/Bryson, R. P.	32-Geological Sci

NGR 23-005-540 University of Michigan - Ann Arbor 2586
Experimental and theoretical study of sound from meteors

Period	Obligations	
01/07/72-03/31/77	FY76: $62,109	TOTAL: $131,109
Prin. Invest.	NASA Tech. Officer	CASE Category
Bartman, F. L.	HQ-SL/Fellows, R. F. HQ-SL/Donn, B. D.	31-Atmos Sci

NGR 23-005-543 University of Michigan - Ann Arbor 2587
Basic research in solar physics

Period	Obligations	
11/17/72-12/31/74	FY76:	TOTAL: $15,664
Prin. Invest.	NASA Tech. Officer	CASE Category
Teske, R. G.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 23-005-617 University of Michigan - Ann Arbor 2588
Computer programs for the calculation of atmospherical infrared transmittance

Period	Obligations	
11/12/73-07/31/75	FY76:	TOTAL: $26,166
Prin. Invest.	NASA Tech. Officer	CASE Category
Drayson, S. R.	LARC/Reichle, H. G., Jr.	31-Atmos Sci

NSG 1003 University of Michigan - Ann Arbor 2589
Measurement of ozone transmissivity at low temperature

Period	Obligations	
03/01/74-05/31/75	FY76:	TOTAL: $39,277
Prin. Invest.	NASA Tech. Officer	CASE Category
Drayson, S. R. Kuhn, W. R. Chaney, L. W.	LARC/Russell, J. M., III LARC/Davis, R. E.	31-Atmos Sci

NSG 1080 University of Michigan - Ann Arbor 2590
Definition of tire properties for landing system analyses

Period	Obligations	
09/01/74-08/31/76	FY76: $30,036	TOTAL: $68,498
Prin. Invest.	NASA Tech. Officer	CASE Category
Clark, S. K.	LARC/McCarty, J. L. LARC/Tanner, J. A.	41-Aero Engr

NSG 1176 University of Michigan - Ann Arbor 2591
Comparative analyses of genetic algorithms in relation to other multimodal function optimization techniques

Period	Obligations	
05/01/75-10/31/76	FY76:	TOTAL: $15,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Holland, J. H.	LARC/Straeter, T. A. LARC/Hogge, J. E.	21-Mathematics

NSG 1229 University of Michigan - Ann Arbor 2592
Stall/spin program research

Period	Obligations	
08/07/75-09/30/76	FY76: $16,697	TOTAL: $16,697
Prin. Invest.	NASA Tech. Officer	CASE Category
Kroeger, R. A.	LARC/Stough, H. P.	41-Aero Engr

NSG 1243 University of Michigan - Ann Arbor 2593
Rain scavenging of solid rocket motor exhaust clouds

Period	Obligations	
10/01/75-09/30/76	FY76: $50,585	TOTAL: $50,585
Prin. Invest.	NASA Tech. Officer	CASE Category
Dingle, A. N.	LARC/Pellett, G. L. LARC/Wagner, H. S.	31-Atmos Sci

NSG 1306 University of Michigan - Ann Arbor 2594
Models and techniques for evaluating the effectiveness of aircraft computing systems

Period	Obligations	
05/01/76-04/30/77	FY76: $69,822	TOTAL: $69,822
Prin. Invest.	NASA Tech. Officer	CASE Category
Meyer, J. F.	LARC/Bavuso, S. J.	45-Elec Engr

NSG 2018 University of Michigan - Ann Arbor 2595
GRAD research aeronautics program

Period	Obligations	
04/01/74-09/30/76	FY76: $25,000	TOTAL: $156,762
Prin. Invest.	NASA Tech. Officer	CASE Category
Kroeger, R. A.	ARC/Feistel, T. W.	41-Aero Engr

NSG 2056 University of Michigan - Ann Arbor 2596
Interactive computer graphics study

Period	Obligations	
01/01/75-08/15/76	FY76: $30,000	TOTAL: $45,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Kroeger, R. A. Phillips, R. L. Smith, M. R.	ARC/Galloway, T. L. ARC/Schairer, E. T.	41-Aero Engr

NSG 2113 University of Michigan - Ann Arbor 2597
Improvement of light aircraft propulsion efficiency

Period	Obligations	
10/01/75-09/30/76	FY76: $65,366	TOTAL: $65,366
Prin. Invest.	NASA Tech. Officer	CASE Category
Kroeger, R. A.	ARC/Anderson, S. B.	41-Aero Engr

NSG 5044 University of Michigan - Ann Arbor 2598
Investigations of electromagnetic scattering by columnar ice crystals

Period	Obligations	
01/01/75-12/31/75	FY76:	TOTAL: $28,808
Prin. Invest.	NASA Tech. Officer	CASE Category
Weil, H. Senior, T. B.	GSFC/Curran, R. J. GSFC/Fraser, R. S.	31-Atmos Sci

NSG 5097 **University of Michigan - Ann Arbor** **2599**
Measurement of hydrogen density in the atmosphere of the earth
Period *Obligations*
03/01/76-02/28/77 FY76: $4,690 TOTAL: $4,690
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Donahue, T. M. GSFC/Kupperian, J. E. 11-Astronomy
Atreya, S. A.

NSG 5117 **University of Michigan - Ann Arbor** **2600**
Measurement of the H2 density near 100 km of earth's atmosphere
Period *Obligations*
06/01/76-05/31/77 FY76: $12,000 TOTAL: $12,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Donahue, T. M. GSFC/Kupperian, J. E. 11-Astronomy

NSG 7004 **University of Michigan - Ann Arbor** **2601**
Analysis of IMP-6 solar radio burst
Period *Obligations*
11/01/73-04/30/76 FY76: $1,000 TOTAL: $179,703
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Haddock, F. T. HQ-SA/Jordan, S. D. 13-Physics

NSG 7137 **University of Michigan - Ann Arbor** **2602**
Analysis of OGO-6 photometer
Period *Obligations*
01/01/75-01/31/76 FY76: TOTAL: $12,762
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Donahue, T. M. HQ-ST/Schmerling, E. R. 11-Astronomy

NSG 7187 **University of Michigan - Ann Arbor** **2603**
Theoretical and numerical studies of stratospheric chemistry and radiation
Period *Obligations*
10/01/75-09/30/76 FY76: $50,070 TOTAL: $50,070
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cicerone, R. J. HQ-SU/King, J., Jr. 12-Chemistry
HQ-SU/Gaunter, D. J.

NSG 7209 **University of Michigan - Ann Arbor** **2604**
A program of stratospheric research
Period *Obligations*
01/01/76-12/31/76 FY76: $108,000 TOTAL: $108,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Donahue, T. M. HQ-SU/King, J., Jr. 31-Atmos Sci
Kuhn, W. R. HQ-SU/Reed, E. F
Cerone, C. I.

NSG 9031 **University of Michigan - Ann Arbor** **2605**
Study of atom-radical reaction system capable of providing in situ measurements of NO2, HO2, C10, and BrO
Period *Obligations*
06/15/75-06/14/76 FY76: TOTAL: $38,774
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, J. G. JSC/Stanley, J. F. 31-Atmos Sci

S-54214A **University of Michigan - Ann Arbor** **2606**
Feasibility study of Doppler signature detection of incipient tornadoes
Period *Obligations*
05/21/75-11/21/75 FY76: TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Senior, T. B. GSFC/Levine, D. M. 31-Atmos Sci

NAS 8-29823 **Wayne State University** **2607**
Electrophoretic separation of proteins in space
Period *Obligations*
05/15/73-09/15/75 FY76: TOTAL: $75,880
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brown, R. K. MSFC/Allen, R. E. 47-Materials Engr
MSFC/Nerren, B. H.

NGR 23-006-063 **Wayne State University** **2608**
Laser power solar cell research
Period *Obligations*
04/10/73-09/27/75 FY76: TOTAL: $21,173
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wang, E. Y. LERC/Dunning, J. W., Jr. 45-Elec Engr
Yu, F. T. LERC/Brandhorst, H. W., Jr.

NSG 2008 **Wayne State University** **2609**
Mathematical models of in vivo measurement of human ulnar strength
Period *Obligations*
02/01/74-09/30/76 FY76: TOTAL: $38,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Orne, D. ARC/Young, D. R. 53-Other Medical

NSG 3014 **Wayne State University** **2610**
Solar energy research
Period *Obligations*
06/19/74-07/03/76 FY76: TOTAL: $11,060
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wang, E. Y. LERC/Brandhorst, H. W., Jr. 13-Physics
LERC/Bernatowicz, D. T.

NSG 3035 **Wayne State University** **2611**
Laser power research
Period *Obligations*
09/03/74-03/02/77 FY76: $720 TOTAL: $11,780
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Yu, F. T. LERC/Dunning, J. W., Jr. 45-Elec Engr

NSG 3081 **Wayne State University** **2612**
Solar energy research
Period *Obligations*
09/15/75-03/14/77 FY76: $12,570 TOTAL: $12,570
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wang, E. Y. LERC/Brandhorst, H. W., Jr. 13-Physics
LERC/Bernatowicz, D. T.

MINNESOTA

NAS 5-23557 Concordia College in Moorhead 2613
Post flight calibration study on the lunar ejecta and meteorite experiment

Period	*Obligations*	
06/14/76-03/30/77	FY76: $27,080	TOTAL: $27,080
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bailey, C. F. Frantsvog, D. J.	GSFC/Berg, O. E.	11-Astronomy

NAS 1-9697 Univ of Minnesota - Minneapolis-St Paul 2614
Participation in the science planning for the Viking 1975 missions in the area of entry science

Period	*Obligations*	
03/20/70-03/31/77	FY76: $25,371	TOTAL: $363,933
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nier, A. O.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	99-Multi-Discip

NAS 1-11676 Univ of Minnesota - Minneapolis-St Paul 2615
Fabrication, testing, and calibration of flight mass spectrometers for dual air density project

Period	*Obligations*	
06/16/72-12/31/75	FY76: $14,245	TOTAL: $663,937
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nier, A. O. Mauersberger, K.	LARC/Beswick, A. G. LARC/Prior, E. J.	31-Atmos Sci

NAS 1-13712 Univ of Minnesota - Minneapolis-St Paul 2616
Data analysis for dual air density satellites

Period	*Obligations*	
12/16/74-09/15/77	FY76:	TOTAL: $33,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mauersberger, K. Nier, A. O.	LARC/Keating, G. M. LARC/Lee, R. B., III	31-Atmos Sci

NAS 2-8812 Univ of Minnesota - Minneapolis-St Paul 2617
Design and development of the bus neutral mass spectrometer

Period	*Obligations*	
06/17/75-08/31/78	FY76: $15,000	TOTAL: $18,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nier, A. O. Mauersberger, K.	ARC/Thorley, G. W. ARC/Sperans, J.	31-Atmos Sci

NAS 5-3838 Univ of Minnesota - Minneapolis-St Paul 2618
Zodiacal light experiment

Period	*Obligations*	
06/25/64-12/31/75	FY76:	TOTAL: $504,581
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Epney, O.	GSFC/Stall, W. O.	13-Physics

NAS 5-11173 Univ of Minnesota - Minneapolis-St Paul 2619
Magnetic fields experiment for S3

Period	*Obligations*	
10/22/68-03/31/76	FY76:	TOTAL: $440,280
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cahill, L. J., Jr.	GSFC/Sizemore, K. O.	49-Engr, NEC

NAS 5-11310 Univ of Minnesota - Minneapolis-St Paul 2620
Ac electric fields experiment Helios

Period	*Obligations*	
06/29/70-02/01/79	FY76: $115,000	TOTAL: $1,204,555
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kellogg, P. J. Hamermesh, M.	GSFC/White, C. E.	11-Astronomy

NAS 5-11438 Univ of Minnesota - Minneapolis-St Paul 2621
Open source neutral mass spectrometers for AE spacecraft, missions C, D, & E

Period	*Obligations*	
06/15/71-11/19/77	FY76: $120,731	TOTAL: $1,012,731
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nier, A. O.	GSFC/Corrigan, J. P.	31-Atmos Sci

NAS 5-11687 Univ of Minnesota - Minneapolis-St Paul 2622
Study of particle acceleration mechanisms for the ATS-F

Period	*Obligations*	
05/21/69-05/30/76	FY76: $90,379	TOTAL: $758,062
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Winckler, J. R.	GSFC/Wainscott, F. H.	49-Engr, NEC

NAS 5-20837 Univ of Minnesota - Minneapolis-St Paul 2623
Data reduction and analysis of electromagnetic field of IMP I

Period	*Obligations*	
02/20/75-06/30/76	FY76:	TOTAL: $60,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kellogg, P. J.	GSFC/Davis, M. A.	13-Physics

NAS 8-27977 Univ of Minnesota - Minneapolis-St Paul 2624
Design, development, & operation of Cerenkov portion of the ACR-7 heavy nuclei experiment under the HEAO program

Period	*Obligations*	
06/16/72-07/15/80	FY76: $242,000	TOTAL: $592,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Waddington, C. J.	MSFC/Krome, H. O. MSFC/Cochran, J.	11-Astronomy

NAS 8-31510 Univ of Minnesota - Minneapolis-St Paul 2625
Study of electron accelerator experiments using subsatellites as detectors

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $25,015
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Winckler, J. R. Hendrickson, R.	MSFC/Roberts, W. T. MSFC/Chappell, C. R.	13-Physics

NAS 9-12560 Univ of Minnesota - Minneapolis-St Paul 2626
Storage stability & improvement of intermediate moisture foods

Period	Obligations	
03/23/72-03/17/77	FY76: $55,000	TOTAL: $210,000
Prin. Invest	NASA Tech. Officer	CASE Category
Labuza, T. P.	JSC/Smith, M. C., Jr.	59-Life Sci, NEC

NGL 24-005-008 Univ of Minnesota - Minneapolis-St Paul 2627
Analytic and experimental research in space physics including balloon and rocket flight experiments

Period	Obligations	
08/20/62-06/30/77	FY76:	TOTAL: $4,196,132
Prin. Invest	NASA Tech. Officer	CASE Category
Winckler, J. R.	HQ-ST/Cauffman, D. P.	13-Physics

NGL 24-005-009 Univ of Minnesota - Minneapolis-St Paul 2628
Development and application of mass spectrometers to studies of earths upper atmosphere and planetary atmospheres

Period	Obligations	
08/01/62-06/30/78	FY76: $108,919	TOTAL: $1,394,396
Prin. Invest	NASA Tech. Officer	CASE Category
Nier, A. O.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 24-005-160 Univ of Minnesota - Minneapolis-St Paul 2629
Investigation of environmental microbiology as related to planetary quarantine

Period	Obligations	
06/13/68-05/31/76	FY76: $20,000	TOTAL: $1,245,000
Prin. Invest	NASA Tech. Officer	CASE Category
Straub, C. P.	HQ-SB/Hall, L. B. HQ-SL/Gallagher, S. G.	51-Biology

NGL 24-005-225 Univ of Minnesota - Minneapolis-St Paul 2630
Lunar sample analysis

Period	Obligations	
01/26/71-01/31/78	FY76: $62,700	TOTAL: $546,103
Prin. Invest	NASA Tech. Officer	CASE Category
Alexander, E. C., Jr.	JSC/Harris, J. W.	13-Physics

NGL 24-005-263 Univ of Minnesota - Minneapolis-St Paul 2631
Study of Minnesota forests and lakes using data from earth resources technology satellites

Period	Obligations	
07/06/72-06/30/79	FY76: $60,000	TOTAL: $280,000
Prin. Invest	NASA Tech. Officer	CASE Category
Shepherd, W. G.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 24-005-050 Univ of Minnesota - Minneapolis-St Paul 2632
Measurement of the gamma ray flux of various celestial point sources from high altitude balloons

Period	Obligations	
04/21/65-06/30/76	FY76: $60,000	TOTAL: $667,887
Prin. Invest	NASA Tech. Officer	CASE Category
Waddington, C. J. Freier, P. S.	HQ-SA/Opp, A. G.	11-Astronomy

NGR 24-005-196 Univ of Minnesota - Minneapolis-St Paul 2633
Studying the neutral constituents of the polar atmospheres above 100 km during calendar year 1970

Period	Obligations	
03/16/70-12/31/75	FY76:	TOTAL: $271,500
Prin. Invest	NASA Tech. Officer	CASE Category
Nier, A. O.	HQ-SL/Fellows, R. F. HQ-SA/Logan, W.	31-Atmos Sci

NGR 24-005-223 Univ of Minnesota - Minneapolis-St Paul 2634
Lunar sample analysis

Period	Obligations	
05/22/71-01/31/77	FY76: $105,000	TOTAL: $425,175
Prin. Invest	NASA Tech. Officer	CASE Category
Murthy, V. R.	JSC/Harris, J. W.	13-Physics

NGR 24-005-248 Univ of Minnesota - Minneapolis-St Paul 2635
Lunar sample analysis

Period	Obligations	
08/03/71-01/31/77	FY76: $61,900	TOTAL: $312,045
Prin. Invest	NASA Tech. Officer	CASE Category
Banerjee, S. K.	JSC/Harris, J. W.	32-Geological Sci

NGR 24-005-253 Univ of Minnesota - Minneapolis-St Paul 2636
Particle and field studies of the magnetosphere

Period	Obligations	
11/01/71-12/31/75	FY76:	TOTAL: $400,186
Prin. Invest	NASA Tech. Officer	CASE Category
Cahill, L. J., Jr.	HQ-ST/Schmerling, E. R. HQ-SA/Logan, W.	13-Physics

NGR 24-005-267 Univ of Minnesota - Minneapolis-St Paul 2637
Photometric investigation of wavelength dependence of radiation from objects, showing excess long wave radiation (10 to 30 microns)

Period	Obligations	
02/26/73-09/30/76	FY76:	TOTAL: $49,000
Prin. Invest	NASA Tech. Officer	CASE Category
Ney, E. P.	ARC/Cameron, R. M.	11-Astronomy

NGT 24-005-078 Univ of Minnesota - Minneapolis-St Paul 2638
Training of predoctoral graduate students in space sciences and technology

Period	Obligations	
06/24/65-08/01/78	FY76:	TOTAL: $18,298
Prin. Invest	NASA Tech. Officer	CASE Category
Anderson, G. W.	HQ-P/Carter, C. H.	99-Multi-Discip

NSG 2014 Univ of Minnesota - Minneapolis-St Paul 2639
Exploratory astrophysics and infrared astronomy

Period	Obligations	
02/01/74-01/31/77	FY76: $85,000	TOTAL: $165,000
Prin. Invest	NASA Tech. Officer	CASE Category
Ney, E. P.	ARC/Cameron, R. M. ARC/Gillespie, C. M., Jr.	11-Astronomy

MINNESOTA (Continued)

NSG 3041 Univ of Minnesota - Minneapolis-St Paul **2640**
Ion beam sputter etch and deposition study
Period *Obligations*
01/01/75-01/01/77 FY76: $49,999 TOTAL: $99,385
Prin. Invest. *NASA Tech Officer* *CASE Category*
Wehner, G. K. LERC/Weigand, A. J. 13-Physics
Judy, J. H. LERC/Terdan, F. F.

NSG 3094 Univ of Minnesota - Minneapolis-St Paul **2641**
Investigations of negative and positive cesium ion species
Period *Obligations*
02/01/76-01/31/77 FY76: $50,350 TOTAL: $50,350
Prin. Invest. *NASA Tech Officer* *CASE Category*
Chanin, L. M. LERC/Morris, J. F. 19-Phys Sci, NEC

NSG 5088 Univ of Minnesota - Minneapolis-St Paul **2642**
Magnetospheric physics phenomena using sounding rockets
Period *Obligations*
11/01/75-10/31/76 FY76: $99,627 TOTAL: $99,627
Prin. Invest. *NASA Tech Officer* *CASE Category*
Winckler, J. R. GSFC/Bissell, E. E., Jr. 13-Physics
HQ-ST/Cauffman, D. P.

NSG 6005 Univ of Minnesota - Minneapolis-St Paul **2643**
Investigations of electrical currents in the auroral ionosphere
Period *Obligations*
10/01/75-09/30/76 FY76: $95,000 TOTAL: $95,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Arnoldy, R. J. WFC/Ballance, C. W., Jr.
19-Phys Sci, NEC
Cahill, L. J., Jr. WFC/Gray, J. W.

NSG 6009 Univ of Minnesota - Minneapolis-St Paul **2644**
Study of neutral composition of upper atmosphere with rocket-borne mass spectrometers
Period *Obligations*
07/01/75-06/30/76 FY76: $26,000 TOTAL: $26,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Nier, A. O. WFC/Ballance, C. W., Jr.
19-Phys Sci, NEC

NSG 7005 Univ of Minnesota - Minneapolis-St Paul **2645**
Energetic particles in the magnetosphere and space
Period *Obligations*
07/01/73-06/30/78 FY76: $102,000 TOTAL: $522,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Winckler, J. R. HQ-ST/Cauffman, D. P.
39-Env Sci, NEC
HQ-ST/Schmerling, E. R.

NSG 7108 Univ of Minnesota - Minneapolis-St Paul **2646**
Research of waves and fields in plasma
Period *Obligations*
12/01/74-09/30/76 FY76: $20,000 TOTAL: $50,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Kellogg, P. J. HQ-ST/Taylor, W. W. 19-Phys Sci, NEC

NSG 7221 Univ of Minnesota - Minneapolis-St Paul **2647**
Neutral constituent measurements in stratosphere
Period *Obligations*
03/16/76-06/15/76 FY76: $14,409 TOTAL: $14,409
Prin. Invest. *NASA Tech Officer* *CASE Category*
Mauersberger, K. HQ-SU/King, J., Jr. 31-Atmos Sci

NSG 7237 Univ of Minnesota - Minneapolis-St Paul **2648**
Interpretation of data obtained with the Explorer spacecraft. Major objective is understanding of magnetic storms
Period *Obligations*
06/01/76-05/31/77 FY76: $37,000 TOTAL: $37,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Cahill, L. J., Jr. HQ-ST/Cauffman, D. P.
19-Phys Sci, NEC
HQ-ST/Schmerling, E. R.

NSR 24-005-245 Univ of Minnesota - Minneapolis-St Paul **2649**
Study of the proper motion of stars using the automated proper motion system
Period *Obligations*
01/13/72-08/31/76 FY76: $14,252 TOTAL: $238,329
Prin. Invest. *NASA Tech Officer* *CASE Category*
Luyten, W. J. HQ-SA/Roman, N. G. 11-Astronomy
GSFC/Mead, J. M.

MISSISSIPPI

NGR 25-012-001 Alcorn State University **2650**
Radio tracking of geostationary satellites
Period *Obligations*
09/01/73-12/31/76 FY76: $45,754 TOTAL: $126,229
Prin. Invest. *NASA Tech Officer* *CASE Category*
Paul, M. P. GSFC/Schmid, P. E. 31-Atmos Sci
GSFC/Marini, J. W.

NSG 8005 Alcorn State University **2651**
Bio-degradation of rocket propellant waste (ammonium perchlorate)
Period *Obligations*
04/01/74-06/01/76 FY76: TOTAL: $43,395
Prin. Invest. *NASA Tech Officer* *CASE Category*
Naqvi, S. M. NSTL/Wolverton, B. C.
39-Env Sci, NEC
Latif, A. MSFC/Kent, M. I.

NSG 8036 Alcorn State University **2652**
Bio-gas production from alligator weeds
Period *Obligations*
06/01/76-06/01/77 FY76: $20,897 TOTAL: $20,897
Prin. Invest. *NASA Tech Officer* *CASE Category*
Latif, A. NSTL/Wolverton, B. C. 51-Biology
Naqvi, S. M. MSFC/Kent, M. I.

NASA'S UNIVERSITY PROGRAM
MISSISSIPPI (Continued)

NGR 25-011-005 **Jackson State University** **2653**
Establishment of an analytical model for natural water system
Period *Obligations*
11/01/73-11/01/74 FY76: - TOTAL: $20,933
Prin. Invest. *NASA Tech Officer* *CASE Category*
Sekhon, B. S. MSFC/Wolverton, B. C. 39-Env Sci, NEC
MSFC/Kent, M. I.

NSG 3004 **Jackson State University** **2654**
Numerical solution of Navier-Stokes equations for steady laminar incompressible flow between two plates with abrupt change of spacings
Period *Obligations*
03/01/74-05/31/77 FY76: $23,243 TOTAL: $66,686
Prin. Invest. *NASA Tech Officer* *CASE Category*
Chu, C. S. LERC/Zuk, J. 49-Engr, NEC

NSG 8015 **Jackson State University** **2655**
Study aquatic plants as filtration systems for photographic waste
Period *Obligations*
06/03/74-06/02/75 FY76: TOTAL: $24,919
Prin. Invest. *NASA Tech Officer* *CASE Category*
Perkins, J. MSFC/Wolverton, B. C. 39-Env Sci, NEC
MSFC/Kent, M. I.

NSG 8023 **Jackson State University** **2656**
Establishment of an analytical model for natural water systems
Period *Obligations*
11/01/74-10/31/76 FY76: TOTAL: $23,061
Prin. Invest. *NASA Tech Officer* *CASE Category*
Sekhon, B. S. MSFC/Wolverton, B. C. 39-Env Sci, NEC

NSG 8026 **Jackson State University** **2657**
Aquatic plants as filtration systems for chlorinated hydrocarbons
Period *Obligations*
06/01/75-06/01/77 FY76: $24,966 TOTAL: $49,301
Prin. Invest. *NASA Tech Officer* *CASE Category*
Shore, F. NSTL/Wolverton, B. C. 39-Env Sci, NEC
MSFC/Kent, M. I.

NSG 9016 **Jackson State University** **2658**
Research in marshland ecology
Period *Obligations*
08/15/74-05/31/77 FY76: $20,000 TOTAL: $48,012
Prin. Invest. *NASA Tech Officer* *CASE Category*
Nelson, F. R. NSTL/Joyce, A. T. 39-Env Sci, NEC

NAS 8-26749 **Mississippi State University** **2659**
A study of trends and techniques for space base electronics
Period *Obligations*
01/12/71-01/11/77 FY76: $20,000 TOTAL: $110,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Gassaway, J. D. MSFC/Hollis, B. R., Jr. 13-Physics
MSFC/Kennedy, B. W.

NAS 8-30618 **Mississippi State University** **2660**
Fabrication of thermo-plastic hologram storage devices
Period *Obligations*
03/15/74-12/15/75 FY76: TOTAL: $16,300
Prin. Invest. *NASA Tech Officer* *CASE Category*
Rogers, T. W. MSFC/Pitts, E. H. 45-Elec Engr

NAS 8-30623 **Mississippi State University** **2661**
Application of remote sensing to the identification of archaeological and potential recreational sites along the Tennessee-Tombigbee waterway route
Period *Obligations*
04/01/74-10/01/74 FY76: TOTAL: $10,150
Prin. Invest. *NASA Tech Officer* *CASE Category*
Miller, W. F. MSFC/Daniels, J. L., Jr. 39-Env Sci, NEC
MSFC/Bensko, J.

NAS 8-31373 **Mississippi State University** **2662**
Study of digital holographic filter generation
Period *Obligations*
03/20/75-11/20/76 FY76: TOTAL: $9,980
Prin. Invest. *NASA Tech Officer* *CASE Category*
Ingels, F. M. MSFC/Smith, H. F. 45-Elec Engr
MSFC/Pitts, E. H.

NAS 8-31568 **Mississippi State University** **2663**
Damping techniques for all modes in an automated control system
Period *Obligations*
08/25/75-08/24/77 FY76: $50,000 TOTAL: $50,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Mitchell, G. MSFC/Guynes, B. U. 41-Aero Engr
MSFC/Mink, H. J.

NAS 8-31770 **Mississippi State University** **2664**
Heat shield model fluctuating pressure test and full scale design requirements
Period *Obligations*
12/15/75-12/14/76 FY76: $20,000 TOTAL: $20,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Shepard, W. S. MSFC/Clever, W. W. 41-Aero Engr

NAS13-10 **Mississippi State University** **2665**
Design of a solar powered water hyacinth dryer

Period	*Obligations*	
03/14/75-06/27/75	FY76:	TOTAL: $9,420
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Forbes, R. E.	NSTL/Montgomery, W. D. NSTL/Wolverton, B. C.	49-Engr, NEC

NAS13-21 **Mississippi State University** **2666**
Beef cattle feeding experiment using nitrogen sources for finishing steer

Period	*Obligations*	
09/15/75-04/15/76	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	NSTL/Unavailable	59-Life Sci, NEC

NCA 8-107 **Mississippi State University** **2667**
A study of the fracture mechanics properties of ceramic materials

Period	*Obligations*	
03/10/75-03/09/76	FY76:	TOTAL: $13,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hall, W. B.	MSFC/King, H. M.	47-Materials Engr

NGL 25-001-040 **Mississippi State University** **2668**
Interdisciplinary program in earth resource and environmental research

Period	*Obligations*	
05/07/71-01/01/75	FY76:	TOTAL: $100,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brown, L. R.	HQ-P/Redding, E. R. MSFC/Kent, M. I.	39-Env Sci, NEC

NGL 25-001-054 **Mississippi State University** **2669**
Application of remotely sensed data to state and regional problems

Period	*Obligations*	
11/01/73-10/31/78	FY76: $100,000	TOTAL: $400,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Miller, W. F.	HQ-P/Vitale, J. A. MSFC/McDonough, G. F.	39-Env Sci, NEC

NGR 25-001-050 **Mississippi State University** **2670**
Stiffness and damping of inherently compensated gas thrusting bearing with finite square geometry

Period	*Obligations*	
01/30/73-12/31/75	FY76:	TOTAL: $25,317
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stiffler, A. K.	LERC/Fleming, D. P. LERC/Cunningham, R. E.	46-Mech Engr

NGR 25-001-055 **Mississippi State University** **2671**
Numerical solution of the Navier-Stokes equations for arbitrary two-dimensional multielement airfoils

Period	*Obligations*	
01/01/74-12/31/76	FY76: $31,656	TOTAL: $86,091
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thompson, J. F.	LARC/Bobbitt, P. J. LARC/Newman, P. A.	41-Aero Engr

NSG 1083 **Mississippi State University** **2672**
An exploratory investigation of the cooling drag associated with general aviation propulsive systems

Period	*Obligations*	
09/01/74-08/31/76	FY76: $56,313	TOTAL: $100,959
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cross, E. J., Jr. Mertaugh, L. J.	LARC/Hall, A. W. LARC/Fisher, B. D.	41-Aero Engr

NSG 1231 **Mississippi State University** **2673**
Flight test evaluation of a method to determine the level flight performance of propeller driven aircraft

Period	*Obligations*	
10/01/75-09/30/76	FY76: $26,369	TOTAL: $26,369
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cross, E. J., Jr. Boatwright, D. W.	LARC/Hall, A. W. LARC/Fisher, B. D.	41-Aero Engr

NSG 1242 **Mississippi State University** **2674**
Automatic mesh refinement for numerical solution of flows with strong shocks

Period	*Obligations*	
10/01/75-09/30/76	FY76: $20,000	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thompson, J. F. Warsi, Z. U.	LARC/Weilmuenster, K. J.	21-Mathematics

NSG 1249 **Mississippi State University** **2675**
Flight test of a wing stall sensor and evaluation of its application to an aircraft stall deterrent system

Period	*Obligations*	
09/15/75-08/14/76	FY76: $22,000	TOTAL: $22,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bennett, A. G., Jr. Owens, J. K.	LARC/Harris, R. L.	41-Aero Engr

NSG 1284 **Mississippi State University** **2676**
An investigation of handling qualities of current sailplanes

Period	*Obligations*	
02/15/76-02/14/77	FY76: $25,567	TOTAL: $25,567
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bennett, A. G.	LARC/Gera, J.	41-Aero Engr

MISSISSIPPI (Continued)

NSG 3111 **Mississippi State University** 2677
Analysis of pressurized gas squeeze film

Period	*Obligations*	
07/01/76-06/30/77	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stiffler, A. K.	LERC/Fleming, D. P. LERC/Cunningham, R. E.	46-Mech Engr

NSG 8009 **Mississippi Valley State Univ.** 2678
Biological indicators for monitoring the water quality of MTF canals system

Period	*Obligations*	
04/25/74-06/25/76	FY76:	TOTAL: $44,521
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sethi, S. L.	MSFC/Wolverton, B. C. MSFC/Kent, M. I.	51-Biology

NAS 3-19431 **University of Mississippi - University** 2679
Study of atomosphere absorption of high frequency noise

Period	*Obligations*	
04/21/75-06/20/76	FY76: $1,605	TOTAL: $128,269
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shields, F. D. Bass, H. E.	LERC/Gutierrez, O. A.	41-Aero Engr

NAS13-23 **University of Southern Mississippi** 2680
Water hyacinths study

Period	*Obligations*	
10/20/75-10/21/76	FY76: $5,000	TOTAL: $5,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wolverton, V. C.	NSTL/Stocks, P.	51-Biology

NGL 25-005-007 **University of Southern Mississippi** 2681
Remote sensing study of land use & sedimentation in Rose Barnett Reservoir, Jackson, Mississippi area

Period	*Obligations*	
02/15/72-04/30/76	FY76:	TOTAL: $150,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pinson, J. W.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 25-005-005 **University of Southern Mississippi** 2682
Novel diacids & dianhydrides as polymer precursors

Period	*Obligations*	
06/09/71-12/31/76	FY76:	TOTAL: $175,050
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thames, S. F.	LARC/Johnston, N. J.	12-Chemistry

NSG 1285 **University of Southern Mississippi** 2683
Enhancement of mass spectra by deconvolution

Period	*Obligations*	
03/01/76-11/30/76	FY76: $4,887	TOTAL: $4,887
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rayborn, G. H.	LARC/Wood, G. M.	13-Physics

MISSOURI

NGL 26-006-021 **Saint Louis University** 2684
Computer method for redesigning and nonlinear analysis of a redundant complex structure

Period	*Obligations*	
02/04/69-11/30/75	FY76:	TOTAL: $111,495
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Long, C. A. Rhodes, J. L.	LARC/Sobieszczanski, J.	41-Aero Engr

NGR 26-006-039 **Saint Louis University** 2685
Evaluation of cutaneous sensitivity

Period	*Obligations*	
08/23/71-04/30/77	FY76: $2,500	TOTAL: $33,091
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Van Beaumont, W.	ARC/Greenleaf, J. E.	53-Other Medical

NGR 26-006-042 **Saint Louis University** 2686
Reinterpretation of Marine 9 IRIS data

Period	*Obligations*	
10/03/73-02/29/76	FY76:	TOTAL: $43,917
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pallman, A. J.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NSG 2023 **Saint Louis University** 2687
Monitoring of local sweating response with the onset of motion sickness

Period	*Obligations*	
05/01/74-11/31/76	FY76: $4,871	TOTAL: $17,671
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Van Beaumont, W.	ARC/Anliker, J. E.	53-Other Medical

NAS 5-20818 **University of Missouri - Columbia** 2688
Applications of aiborne lidar measurement study

Period	*Obligations*	
01/29/75-08/15/76	FY76: $5,000	TOTAL: $54,586
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schuster, B. G.	GSFC/Curran, R. J.	31-Atmos Sci

NAS 5-20826 **University of Missouri - Columbia** 2689
Detection and synchronization in complex space communication links

Period	*Obligations*	
01/15/75-08/31/75	FY76:	TOTAL: $19,850
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Noack, T. L.	GSFC/Poland, W. B., Jr.	45-Elec Engr

NAS 8-31150 **University of Missouri - Columbia** 2690
Research study of microphysical processes in atmospheric clouds

Period	*Obligations*	
02/11/75-09/15/76	FY76:	TOTAL: $26,909
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Plummer, P. L. Hale, B. N.	MSFC/Smith, R. E. MSFC/Hill, C. K.	31-Atmos Sci

NAS 8-31767 **University of Missouri - Columbia** **2691**
Application transfer activity in Missouri

Period	*Obligations*	
01/05/76-01/04/77	FY76: $26,200	TOTAL: $26,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barr, P. J. Johannsen, C. J.	MSFC/Paludan, C. T. MSFC/Daniels, J. L., Jr.	39-Env Sci, NEC

NAS 8-31849 **University of Missouri - Columbia** **2692**
Cloud physics laboratory science simulator

Period	*Obligations*	
04/29/76-04/29/77	FY76: $75,000	TOTAL: $75,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dunipace, K. R.	MSFC/Smith, R. E.	31-Atmos Sci

NCA 2-450604 **University of Missouri - Columbia** **2693**
Investigation of measurement errors in laser Doppler anemometer systems

Period	*Obligations*	
06/01/76-05/31/77	FY76: $11,710	TOTAL: $11,710
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Miles, J. B.	ARC/Johnson, D. A.	45-Elec Engr

NGL 26-004-021 **University of Missouri - Columbia** **2694**
Effects of radiation on gastro-intestinal function and cyclic turnover of intestinal epithelium

Period	*Obligations*	
07/13/65-01/31/77	FY76: $20,000	TOTAL: $350,764
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Musacchia, X. J.	ARC/Holton, E. M.	51-Biology

NGR 26-001-018 **University of Missouri - Kansas City** **2695**
Luminescence of nucleic acids and dyes

Period	*Obligations*	
09/01/74-09/06/76	FY76:	TOTAL: $19,904
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Millich, F.	ARC/Ginoza, H. S.	12-Chemistry

NAS 8-31538 **University of Missouri - Rolla** **2696**
Preliminary aerosol generator design studies

Period	*Obligations*	
06/09/75-07/31/76	FY76:	TOTAL: $27,389
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stampfer, J. F., Jr.	MSFC/Smith, R. E. MSFC/Schrick, B. J.	13-Physics

NAS 9-14848 **University of Missouri - Rolla** **2697**
Development and verification of simulation models for analyzing orbiter digital communication and data links and onboard monitoring parameter correlations

Period	*Obligations*	
01/01/76-08/31/77	FY76: $29,600	TOTAL: $29,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tranter, W. H.	JSC/Dawson, C. T.	45-Elec Engr

NCA 2-450501 **University of Missouri - Rolla** **2698**
Structure properties of graphite fiber-composites

Period	*Obligations*	
07/01/74-06/30/75	FY76:	TOTAL: $9,731
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Levenson, L. L.	ARC/Zill, L. P.	47-Materials Engr

NCA 2-450601 **University of Missouri - Rolla** **2699**
Carbon nickel bounding mechanism

Period	*Obligations*	
08/01/75-07/31/76	FY76: $9,990	TOTAL: $9,990
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
James, W. J.	ARC/Zill, L. P.	47-Materials Engr

NCA 2-450602 **University of Missouri - Rolla** **2700**
Atomistic structure and electronic properties

Period	*Obligations*	
07/01/75-12/31/75	FY76: $9,128	TOTAL: $9,128
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Levenson, L. L.	ARC/Zill, L. P.	13-Physics

NCA 2-450603 **University of Missouri - Rolla** **2701**
Study of gas/solid co-adsorption on tungsten surfaces

Period	*Obligations*	
01/01/76-06/30/76	FY76: $8,850	TOTAL: $8,850
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Levenson, L. L.	ARC/Zill, L. P.	47-Materials Engr

NGR 26-004-097 **University of Missouri - Rolla** **2702**
Research in bioenvironmental systems

Period	*Obligations*	
04/17/72-08/31/76	FY76:	TOTAL: $59,878
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mills, J. B.	ARC/Quattrone, P. D.	59-Life Sci, NEC

NSG 1050 **University of Missouri - Rolla** **2703**
Structural-acoustic response and interior noise levels of fuselage structures

Period	*Obligations*	
09/01/74-12/31/76	FY76: $29,606	TOTAL: $59,555
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Koval, L. R.	LARC/Mixson, J. S. LARC/Stephens, D. G.	41-Aero Engr

NSG 3113 **University of Missouri - Rolla** **2704**
Theoretical study of starved elastohydrodynamic lubrication of line contacts with a detailed treatment of inlet and exit flow regions

Period	*Obligations*	
07/01/76-06/31/77	FY76: $10,850	TOTAL: $10,850
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Medrow, R. A.	LERC/Wedeven, L. D.	46-Mech Engr

NAS 1-13889 **Washington University** **2705**
Viking/Lander imaging studies
Period *Obligations*
05/05/75-03/31/77 FY76: $5,000 TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Arvidson, R. E. LARC/Williams, T. S., Jr.
39-Env Sci, NEC
LARC/Glenny, W. R.

NAS 2-7613 **Washington University** **2706**
Lifter rotor random modes and vibration
Period *Obligations*
07/01/73-06/30/76 FY76: $45,414 TOTAL: $258,058
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hohenemser, K. H. ARC/Morse, H. A. 41-Aero Engr
Prelewicz, D. A. ARC/Statler, I. C.
Yin, S. K.

NAS 5-20680 **Washington University** **2707**
Earth observation data management system
Period *Obligations*
08/23/74-08/31/76 FY76: $190,000 TOTAL: $423,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Morgan, R. P. GSFC/Quann, J. J. 99-Multi-Discip
Eastwood, L. F.
Hill, C. T.

NAS 8-27976 **Washington University** **2708**
Design, development and operation of a heavy nuclei experiment under the HEAO program
Period *Obligations*
06/16/72-07/15/80 FY76: $66,750 TOTAL: $271,754
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Israel, M. H. MSFC/Krome, H. O. 11-Astronomy
MSFC/Cochran, J.

NGL 26-008-054 **Washington University** **2709**
Application of satellite communications to educational development
Period *Obligations*
10/13/69-08/31/75 FY76: TOTAL: $645,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Morgan, R. P. HQ-P/Redding, E. R. 99-Multi-Discip

NGL 26-008-057 **Washington University** **2710**
Development of solar wind shock models with tensor plasma pressure for data analysis
Period *Obligations*
12/29/69-12/31/75 FY76: TOTAL: $50,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Abrahamshrauner, B. HQ-ST/Schmerling, E. R. 13-Physics

NGL 26-008-065 **Washington University** **2711**
Lunar sample analysis
Period *Obligations*
02/01/71-01/31/79 FY76: $302,426 TOTAL: $1,832,769
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Walker, R. M. JSC/Harris, J. W. 13-Physics

NGR 26-008-001 **Washington University** **2712**
Determination of characteristics of high altitude primary cosmic radiation at low latitudes
Period *Obligations*
09/01/61-10/31/76 FY76: $115,000 TOTAL: $1,278,281
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Klarmann, J. HQ-SA/Sofia, S. 11-Astronomy
Israel, M. H. HQ-SA/Opp, A. G.

NSG 1016 **Washington University** **2713**
High resolution ultrasonic sensor for observation of particles in fluids
Period *Obligations*
03/15/74-03/14/77 FY76: $39,456 TOTAL: $103,397
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Miller, J. G. LARC/Heyman, J. S. 13-Physics
LARC/Hendricks, H. D.

NSG 1084 **Washington University** **2714**
Imaging natural material with a planetary lander quasi-microscope
Period *Obligations*
07/01/74-08/31/77 FY76: TOTAL: $28,741
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Arvidson, R. E. LARC/Kelly, W. L., IV 32-Geological Sci

NSG 1157 **Washington University** **2715**
Damage repair in composites
Period *Obligations*
03/10/75-03/09/76 FY76: TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wu, E. M. LARC/Deaton, J. W. 46-Mech Engr
LARC/Hoffman, E. L.

NSG 7016 **Washington University** **2716**
Lunar data analysis and synthesis program on lunar surface dynamics
Period *Obligations*
12/01/73-01/31/79 FY76: $162,547 TOTAL: $285,684
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hohenberg, C. M. HQ-SM/Stuartalexander, D. E.
32-Geological Sci
Drozd, R. HQ-SM/Flinn, E. A.
Walker, R.

NSG 7087 **Washington University** **2717**
Computerized analysis of Martian crater and aeolian feature data
Period *Obligations*
08/01/74-07/31/76 FY76: $20,881 TOTAL: $30,792
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Arvidson, R. E. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

MISSOURI (Continued)

NSG 9035 **Washington University** 2718

Gravity research

Period	*Obligations*	
12/01/75-06/30/76	FY76: $5,000	TOTAL: $5,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pickard, B. G.	JSC/Hoffman, R. A.	51-Biology

MONTANA

NGR 27-001-040 **Montana State University** 2719

Establishment of a mission-oriented gravitation research center

Period	*Obligations*	
06/28/71-08/31/76	FY76: $15,674	TOTAL: $130,024
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nordtvedt, K., Jr.	HQ-SA/Wood, D. B. HQ-SA/Roman, N. G.	11-Astronomy

NSG 2030 **University of Montana** 2720

Satellite wildlife research

Period	*Obligations*	
05/01/74-04/30/77	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Craighead, J. J.	ARC/Sebesta, P. D. ARC/Billingham, J.	39-Env Sci, NEC

NEBRASKA

NAS 5-20814 **University of Nebraska - Lincoln** 2721

ERTS data follow-on investigation

Period	*Obligations*	
03/10/75-07/10/77	FY76:	TOTAL: $70,736
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carlson, M. P.	GSFC/Szajna, E. F.	49-Engr, NEC

NAS 5-22903 **University of Nebraska - Lincoln** 2722

Calibration of magnetic electron multipliers

Period	*Obligations*	
01/14/76-07/15/77	FY76: $8,910	TOTAL: $8,910
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Samson, J. R.	GSFC/Kalet, M. W. GSFC/Neupert, W. M.	13-Physics

NAS 5-23125 **University of Nebraska - Lincoln** 2723

Calibration of magnetic electron multipliers

Period	*Obligations*	
06/23/72-12/31/75	FY76:	TOTAL: $68,386
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Samson, J. A.	GSFC/Kalet, M. W.	13-Physics

NAS 8-31897 **University of Nebraska - Lincoln** 2724

Investigation of problems and establishment of design specifications for teleoperator manipulator

Period	*Obligations*	
01/20/76-09/19/76	FY76: $18,230	TOTAL: $18,230
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kersten, L.	MSFC/Johnston, J. D. MSFC/Burch, J. L.	46-Mech Engr

NGL 28-004-020 **University of Nebraska - Lincoln** 2725

Applications of remote sensing in resource management in Nebraska

Period	*Obligations*	
04/20/72-04/30/79	FY76: $100,000	TOTAL: $475,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carlson, M. P.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 28-004-021 **University of Nebraska - Lincoln** 2726

Interaction of radiation with planetary gases

Period	*Obligations*	
02/23/73-01/31/79	FY76:	TOTAL: $173,319
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Samson, J. A.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGR 28-004-025 **University of Nebraska - Lincoln** 2727

Study into effects of oxidized titanium on hydrogen transport in titanium at low temperatures

Period	*Obligations*	
09/01/73-09/20/76	FY76: $32,000	TOTAL: $51,487
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, D. L. Shah, K. K.	ARC/Nelson, H. G.	47-Materials Engr

NEVADA

NAS 8-31470 **Univ. of Nevada - Desert Res. Inst.** 2728

Study of zero-gravity atmospheric cloud physics - Lab chamber development

Period	*Obligations*	
05/13/75-11/12/76	FY76:	TOTAL: $48,998
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Squires, P.	MSFC/Smith, R. E. MSFC/Schrick, B. J.	31-Atmos Sci

NAS 8-31776 **Univ. of Nevada - Desert Res. Inst.** 2729

Preliminary design, development and analysis of a saturator for the atmospheric cloud physics laboratory experiment gas flow

Period	*Obligations*	
02/18/76-02/17/77	FY76: $70,000	TOTAL: $70,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Squires, P.	MSFC/Schrick, B. J. MSFC/Smith, R. E.	31-Atmos Sci

NEVADA (Continued)

NSG 2140 **University of Nevada - Las Vegas** **2730**
Prediction of unsteady airloads in two dimensional subsonic compressible flow
Period *Obligations*
06/01/76-05/31/77 FY76: $18,360 TOTAL: $18,360
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fromme, J. A. ARC/Davis, S. S. 41-Aero Engr
Goldberg, M. A. ARC/Coe, C. F.

NAS 8-31441 **University of Nevada - Reno** **2731**
Zero-g cloud drop coalescence experiment
Period *Obligations*
04/21/75-07/20/76 FY76: $30,077 TOTAL: $54,077
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Telford, J. W. MSFC/Smith, R. E. 19-Phys Sci, NEC
MSFC/Schrick, B. J.

NAS 8-31780 **University of Nevada - Reno** **2732**
Atmospheric cloud physics laboratory science simulator study
Period *Obligations*
01/05/76-11/04/76 FY76: $20,000 TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Squires, P. MSFC/Smith, R. E. 31-Atmos Sci
MSFC/Anderson, B. J.

NEW HAMPSHIRE

NGR 30-001-041 **Dartmouth College** **2733**
Processing and analysis of data from VLF-LF experiments on the OGO-4 and OGO-6 spacecraft and continuation of studies at ground stations
Period *Obligations*
10/02/72-06/31/76 FY76: $30,000 TOTAL: $235,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Morgan, M. G. HQ-ST/Schmerling, E. R. 13-Physics
HQ-ST/Cauffman, D. P.

NSG 5014 **Dartmouth College** **2734**
Geological applications of ERTS data
Period *Obligations*
07/01/74-10/22/76 FY76: $320,205 TOTAL: $484,605
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Huke, R. E. GSFC/Jastrow, R. 39-Env Sci, NEC
Malmstrom, V. GSFC/Ungar, S. G.
Oiber, S. T.

NSG 7097 **Dartmouth College** **2735**
Magnetopause structure from satellite observations
Period *Obligations*
10/08/74-06/30/75 FY76: TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sonnerup, B. HQ-ST/Schmerling, E. R. 11-Astronomy

NAS 5-11276 **University of New Hampshire** **2736**
Design, testing, & calibration of GSF Pioneer F & G cosmic ray unit
Period *Obligations*
02/11/70-06/30/76 FY76: $37,870 TOTAL: $181,870
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Webber, W. R. GSFC/Teegarden, B. J. 11-Astronomy
Suri, A. N. GSFC/Ramaty, R.

NAS 5-11694 **University of New Hampshire** **2737**
Low energy electron-proton experiment for ATS-F
Period *Obligations*
05/01/69-05/30/76 FY76: TOTAL: $510,726
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Arnoldy, R. L. GSFC/Wales, R. O. 11-Astronomy
GSFC/Corrigan, J. P.

NAS 5-20884 **University of New Hampshire** **2738**
Advanced gamma ray balloon experiment ground checkout and data analysis
Period *Obligations*
11/19/74-04/30/76 FY76: $1,223 TOTAL: $16,232
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chupp, E. L. GSFC/Orwig, L. E. 13-Physics

NAS 5-23493 **University of New Hampshire** **2739**
Study effort for solar gamma ray experiment for the solar maximum mission
Period *Obligations*
03/26/76-09/30/76 FY76: $100,000 TOTAL: $100,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chupp, E. L. GSFC/Donley, J. L. 11-Astronomy

NGL 30-002-018 **University of New Hampshire** **2740**
Investigation of energy levels in foil excited atomic beams
Period *Obligations*
03/15/65-06/30/76 FY76: TOTAL: $172,355
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chupp, E. L. HQ-ST/Hunter, W. R. 13-Physics

NGL 30-002-021 **University of New Hampshire** **2741**
Investigation and development of techniques for solar neutron and gamma ray detection
Period *Obligations*
02/28/66-12/31/76 FY76: $57,370 TOTAL: $932,370
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chupp, E. L. HQ-SA/Sofia, S. 11-Astronomy
HQ-SA/Opp, A. G.

NGR 30-002-052 **University of New Hampshire** **2742**
Research program in area of cosmic ray and X-ray astronomy
Period *Obligations*
02/12/70-09/31/76 FY76: $100,000 TOTAL: $760,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Webber, W. R. HQ-SA/Pellerin, C. 11-Astronomy
HQ-SA/Opp, A. G.

NEW HAMPSHIRE (Continued)

NGR 30-002-054 **University of New Hampshire** **2743**
Auroral particle measurements

Period	*Obligations*	
09/12/69-06/30/76	FY76: $32,500	TOTAL: $291,811
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Arnoldy, R. L.	HQ-ST/Schmerling, E. R.	13-Physics

NGR 30-002-104 **University of New Hampshire** **2744**
Gamma ray detector on OSO-7

Period	*Obligations*	
12/04/73-08/31/76	FY76: $21,509	TOTAL: $132,044
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chupp, E. L.	HQ-ST/Timothy, A. F.	13-Physics

NEW JERSEY

NGL 31-006-010 **Fairleigh Dickinson University** **2745**
Lunar and planetary spectral reflectivity

Period	*Obligations*	
08/08/72-02/29/77	FY76:	TOTAL: $141,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Adams, J. B.	HQ-SM/Kosofsky, L. J. HQ-SM/Roberson, F. I.	32-Geological Sci

NGL 31-006-011 **Fairleigh Dickinson University** **2746**
Lunar sample analysis

Period	*Obligations*	
09/19/72-01/31/77	FY76:	TOTAL: $242,682
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Adams, J. B.	JSC/Harris, J. W.	13-Physics

NSG 7047 **Fairleigh Dickinson University** **2747**
Spectral reflectance CF/lunar samples to telescopic spectra of unvisited parts of the moon

Period	*Obligations*	
02/01/74-01/31/75	FY76:	TOTAL: $25,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hartung, J. B.	HQ-SM/Kosofsky, L. J. HQ-SM/Roberson, F. I.	32-Geological Sci

NCA 2-350501 **Jersey City State College** **2748**
Analysis of infrared stellar spectra

Period	*Obligations*	
06/16/75-08/29/75	FY76:	TOTAL: $4,060
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bailey, W. L.	ARC/Zill, L. P.	11-Astronomy

NCA 2-350601 **Jersey City State College** **2749**
Analysis of infrared stellar spectra

Period	*Obligations*	
06/21/76-08/25/76	FY76: $4,550	TOTAL: $4,550
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bailey, W. L.	ARC/Ericson, E. F.	11-Astronomy

NAS 1-9705 **Princeton University** **2750**
Participation in the science planning for the Viking 1975 missions in the area of magnetic properties

Period	*Obligations*	
04/03/70-03/31/77	FY76: $43,050	TOTAL: $152,643
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hargraves, R. B.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	19-Phys Sci, NEC

NAS 1-13502 **Princeton University** **2751**
In-flight evaluation of decoupler longitudinal controls for a STOL transport aircraft

Period	*Obligations*	
08/19/74-04/30/76	FY76:	TOTAL: $132,657
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Seckel, E. Ellis, D. R.	LARC/Miller, G. K., Jr. LARC/Queijo, M. J.	41-Aero Engr

NAS 2-7350 **Princeton University** **2752**
STOL approach & landing research

Period	*Obligations*	
03/02/73-06/30/76	FY76: $49,405	TOTAL: $323,289
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Seckel, E.	ARC/Franklin, J. A.	41-Aero Engr

NAS 5-1810 **Princeton University** **2753**
Design, development, fabrication & testing of orbiting astronomical observatory experiment

Period	*Obligations*	
06/08/72-12/01/78	FY76: $678,129	TOTAL: $18,235,727
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spitzer, L., Jr.	GSFC/Kupperian, J. E.	11-Astronomy

NAS 5-20833 **Princeton University** **2754**
Large high resolution integrating TV sensor for astronomical applications

Period	*Obligations*	
10/23/74-08/31/76	FY76: $212,716	TOTAL: $462,782
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lowrance, J. L.	GSFC/Sobieski, S. GSFC/Kelsall, T. N.	11-Astronomy

NAS 5-22360 **Princeton University** **2755**
Spectroscopy using the one meter ultraviolet optical telescope for spacelab astronomy missions

Period	*Obligations*	
04/18/75-12/31/76	FY76: $10,873	TOTAL: $19,277
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jenkins, E. B.	GSFC/Lockrone, D. S.	32-Geological Sci

NAS 5-22482 **Princeton University** **2756**
Investigation of impurities in magnesium fluoride

Period	*Obligations*	
06/27/75-02/27/76	FY76:	TOTAL: $5,830
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spitzer, L., Jr.	GSFC/Kelsall, T. N.	12-Chemistry

NASA'S UNIVERSITY PROGRAM
NEW JERSEY (Continued)

NAS 5-22989 **Princeton University** **2757**
70 mm/sec TV camera

Period	Obligations	
02/11/76-02/10/77	FY76: $200,000	TOTAL: $200,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Morton, D. C. Lowrance, J. L.	GSFC/Sobieski, S. GSFC/Tycz, M.	11-Astronomy

NAS 5-23284 **Princeton University** **2758**
Instrument definition study for the high resolution imaging camera for large space telescope

Period	Obligations	
07/20/73-06/30/76	FY76:	TOTAL: $27,411
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Danielson, R. E.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NAS 5-23386 **Princeton University** **2759**
Parametric test and evaluation system

Period	Obligations	
04/29/76-06/29/77	FY76: $144,841	TOTAL: $144,841
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lowrance, J. L.	GSFC/Tycz, M.	11-Astronomy

NAS 5-23387 **Princeton University** **2760**
Secondary electron conduction tube optimization and standardization program

Period	Obligations	
06/07/76-08/07/77	FY76: $327,271	TOTAL: $327,271
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lowrance, J. L.	GSFC/Tycz, M.	11-Astronomy

NAS 5-23576 **Princeton University** **2761**
Orbital operations, data reduction and analysis, and OAO GUEST investigator program

Period	Obligations	
09/01/76-08/31/77	FY76: $103,106	TOTAL: $103,106
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spitzer, L., Jr. Rogerson, J. B.	GSFC/Kupperian, J. E.	11-Astronomy

NGL 31-001-005 **Princeton University** **2762**
Formation & stability of magnetogasdynamic front in a pitch discharge

Period	Obligations	
09/24/62-09/30/78	FY76: $160,000	TOTAL: $2,262,912
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jahn, R. G. Clark, K. E.	HQ-RP/Lazar, J.	42-Astro Engr

NGL 31-001-007 **Princeton University** **2763**
Theoretical & experimental studies of ultraviolet phenomena of astronomical interest & galactic gas dynamics

Period	Obligations	
05/06/63-03/31/79	FY76:	TOTAL: $1,677,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spitzer, L., Jr.	HQ-SA/Roman, N. G. HQ-SA/Rosendhal, J. D.	11-Astronomy

NGL 31-001-146 **Princeton University** **2764**
Boundary layer noise and panel flutter

Period	Obligations	
10/24/68-11/01/77	FY76:	TOTAL: $342,280
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dowell, E. H.	LARC/Mixson, J. S.	41-Aero Engr

NGL 31-001-252 **Princeton University** **2765**
Air traffic control technology

Period	Obligations	
11/15/71-10/31/78	FY76: $70,000	TOTAL: $320,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Graham, D.	LARC/Reid, H. J., Jr. LARC/Mace, W. D.	41-Aero Engr

NGL 31-001-283 **Princeton University** **2766**
Lunar sample analysis

Period	Obligations	
06/30/72-01/31/77	FY76: $7,090	TOTAL: $239,990
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hollister, L. S.	JSC/Harris, J. W.	11-Astronomy

NGR 31-001-001 **Princeton University** **2767**
Stratoscope II program

Period	Obligations	
02/12/70-09/30/75	FY76:	TOTAL: $2,740,925
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Millich, F.	HQ-SA/Roman, N. G.	11-Astronomy

NGR 31-001-152 **Princeton University** **2768**
Analytical methods of trajectory analysis

Period	Obligations	
01/15/70-09/30/75	FY76:	TOTAL: $229,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lion, P. M.	GSFC/Barbieri, R. W.	42-Astro Engr

NGR 31-001-197 **Princeton University** **2769**
Three dimensional boundary layer effects on panel flutter

Period	Obligations	
03/25/70-10/31/76	FY76: $87,425	TOTAL: $325,655
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dowell, E. H.	ARC/Gaspers, P. A., Jr.	41-Aero Engr

NGR 31-001-202 **Princeton University** **2770**
Lunar retro-reflector ranging

Period	Obligations	
05/27/70-06/14/77	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dicke, R. H.	HQ-SL/Strickland, A. T.	13-Physics

NGR 31-001-242 Princeton University 2771
A new spectroscopic technique utilizing the Fabry-Perot interferometer

Period	*Obligations*	
07/13/72-03/31/77	FY76:	TOTAL: $201,817
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smith, W. H.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGR 31-001-267 Princeton University 2772
Theoretical analysis of impact in composite plates

Period	*Obligations*	
04/03/72-08/31/75	FY76:	TOTAL: $93,950
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dowell, E. H. Kang, C. K.	LERC/Chamis, C. C. LERC/Younger, C. L.	41-Aero Engr

NGR 31-001-277 Princeton University 2773
VTOL mathematical model designs for optimal control systems designs

Period	*Obligations*	
04/20/72-11/30/76	FY76: $59,100	TOTAL: $249,803
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dukes, T. A. Durbin, E. J.	ARC/Smith, G. A.	41-Aero Engr

NGR 31-001-306 Princeton University 2774
High resolution spectrograph for the large space telescope

Period	*Obligations*	
10/01/73-06/30/76	FY76:	TOTAL: $3,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Morton, D. C.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NGR 31-001-307 Princeton University 2775
Fundamental and applied research on core engine combustion noise of aircraft engines

Period	*Obligations*	
06/01/73-12/31/76	FY76:	TOTAL: $39,444
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Plett, E. G. Summerfield, M.	LERC/Stone, J. R.	41-Aero Engr

NGR 31-001-312 Princeton University 2776
Chemical laser action in low pressure metal flames

Period	*Obligations*	
10/01/73-09/30/75	FY76:	TOTAL: $45,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Glassman, I. Naegeli, D. W.	LERC/Dunning, J. W., Jr.	12-Chemistry

NGR 31-001-328 Princeton University 2777
Nuclear fission plasma characterization and applications analysis research

Period	*Obligations*	
10/01/73-12/30/74	FY76:	TOTAL: $75,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Layton, J. P. Stoenescu, M. L.	HQ-RR/Thom, K. LERC/Kaufman, S. J.	13-Physics

NSG 1070 Princeton University 2778
Resonant Doppler velocimeter

Period	*Obligations*	
07/01/74-08/31/76	FY76: $34,608	TOTAL: $86,659
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Miles, R. B.	LARC/Hunter, W. W., Jr. LARC/Honaker, W. C.	13-Physics

NSG 1078 Princeton University 2779
An exploratory flight investigation of lateral control nonlinearities and their effects on handling qualities

Period	*Obligations*	
07/01/74-12/31/75	FY76:	TOTAL: $14,250
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Seckel, E. Ellis, D. R.	LARC/Crane, H. L.	41-Aero Engr

NSG 1129 Princeton University 2780
Conceptual design study of gas-core nuclear reactors

Period	*Obligations*	
12/16/74-05/31/76	FY76:	TOTAL: $80,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stoenescu, M. L. Bogdonoff, S. M.	LARC/Hohl, F.	49-Engr, NEC

NSG 1234 Princeton University 2781
Simplified longitudinal control decoupling for light general aviation aircraft

Period	*Obligations*	
09/01/75-01/31/77	FY76: $49,975	TOTAL: $49,975
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Seckel, E.	LARC/Crane, H. L.	41-Aero Engr

NSG 1253 Princeton University 2782
Sound transmission analysis for determining interior sound levels

Period	*Obligations*	
11/01/75-10/31/76	FY76: $34,625	TOTAL: $34,625
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dowell, E. H.	LARC/Mixson, J. S. LARC/Rucker, C. E.	41-Aero Engr

NSG 2062 Princeton University 2783
Studies of space colonization

Period	*Obligations*	
01/01/75-10/01/76	FY76: $109,990	TOTAL: $137,430
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
O'Neill, G. K.	ARC/Johnson, R. D. ARC/Chambers, A. B.	99-Multi-Discip

NEW JERSEY (Continued)

NSG 2108 **Princeton University** **2784**

Energy conversion by the photo catalytic generation of hydrogen

Period	Obligations	
09/01/75-08/31/76	FY76: $39,976	TOTAL: $39,976
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bottoms, W. R. Miles, R. B.	ARC/Billman, K. W. ARC/Lee, G.	12-Chemistry

NSG 2114 **Princeton University** **2785**

Study of a small separated region generated by a 20 ramp at M-3

Period	Obligations	
11/01/75-10/31/76	FY76: $31,570	TOTAL: $31,570
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bogdonoff, S. M.	ARC/Horstman, C. C. ARC/Marvin, J. G.	41-Aero Engr

NSG 5063 **Princeton University** **2786**

Measurements of sec tube energetic charged particle induced background

Period	Obligations	
04/01/75-09/30/76	FY76:	TOTAL: $22,031
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lowrance, J. L. Spitzer, L., Jr.	GSFC/Kelsall, T. N. GSFC/Sobieski, S.	49-Engr, NEC

NSG 7053 **Princeton University** **2787**

Theoretical & laboratory planetary physics

Period	Obligations	
04/01/74-09/30/76	FY76:	TOTAL: $82,982
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Danielson, R. E.	HQ-SL/Brunk; W. E.	11-Astronomy

NSG 7080 **Princeton University** **2788**

Study of elastic wave propagation in the moon

Period	Obligations	
07/01/74-01/31/77	FY76: $51,342	TOTAL: $158,165
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Phinney, R. A. Dahlen, F. A. Jordan, T. H.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7088 **Princeton University** **2789**

Study of a 36-inch telescope sounding rocket payload

Period	Obligations	
07/01/74-08/31/75	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schwartzchild, M.	HQ-ST/Timothy, A. F.	11-Astronomy

NSG 7131 **Princeton University** **27[illegible]**

Efficient research and technology program formulation under conditions of risk and uncertainty

Period	Obligations	
05/01/75-04/30/76	FY76: $7,462	TOTAL: $96,462
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dowell, E. H.	HQ-RM/Sanchez, E. L.	99-Multi-Discip

NSR 31-001-901 **Princeton University** **2791**

Ultraviolet spectrographic investigations by high altitude rocket flights

Period	Obligations	
06/30/67-06/30/76	FY76: $182,000	TOTAL: $1,676,196
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lowrance, J. L. Spitzer, L., Jr.	HQ-SA/Roman, N. G. HQ-SA/Ott, E. J.	11-Astronomy

NSG 2148 **Rutgers University - New Brunswick** **2792**

Seminar and research institute on Differential and Algebraic Geometry for Control Engineers

Period	Obligations	
04/01/76-12/31/76	FY76: $17,990	TOTAL: $17,990
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hermann, R.	ARC/Doolin, B. F.	49-Engr, NEC

NSG 1314 **Rutgers University - Newark** **2793**

Three-body recombination in turbulent supersonic flow

Period	Obligations	
06/07/76-06/06/77	FY76: $32,000	TOTAL: $32,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, J. A., III	LARC/Beach, H. L., Jr. LARC/Huber, P. W.	13-Physics

NEW MEXICO

NGT 32-010-001 **New Mexico Highlands University** **2794**

Training of undergraduate students in sciences and engineering

Period	Obligations	
06/01/74-05/31/77	FY76: $14,000	TOTAL: $42,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zenick, H.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	99-Multi-Discip

NSG 804 **New Mexico Highlands University** **2795**

Study of bicyclic and cage compounds

Period	Obligations	
01/01/75-05/31/76	FY76:	TOTAL: $16,417
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Clark, R. D.	KSC/Bryan, C. J. KSC/Gayle, J. B.	12-Chemistry

NAS 5-20916 **New Mexico Institute of Mining & Tech** **2796**

ERTS data follow-on investigation

Period	Obligations	
02/27/75-05/27/76	FY76:	TOTAL: $19,784
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vander Linden, K.	GSFC/Broderick, J. C.	32-Geological Sci

NCA 5-43 **New Mexico Institute of Mining & Tech** **2797**
Maintenance of joint observatory for cometary research
Period *Obligations*
12/01/74-11/30/75 FY76: TOTAL: $6,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hume, W. GSFC/Maran, S. P. 11-Astronomy

NCA 5-48 **New Mexico Institute of Mining & Tech** **2798**
Use of multichannel spectrometer for solar research
Period *Obligations*
05/23/75-12/31/75 FY76: TOTAL: $1,950
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hume, W. GSFC/Maran, S. P. 19-Phys Sci, NEC

NCA 5-58 **New Mexico Institute of Mining & Tech** **2799**
Joint observatory for cometary research
Period *Obligations*
09/29/75-09/30/76 FY76: $15,000 TOTAL: $15,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hume, W. GSFC/Maran, S. P. 11-Astronomy
Moore, E.

NCA 5-59 **New Mexico Institute of Mining & Tech** **2800**
Use of multichannel spectrometer for solar research
Period *Obligations*
09/22/75-12/31/76 FY76: $6,400 TOTAL: $6,400
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hume, W. GSFC/Maran, S. P. 11-Astronomy

NAS 1-13586 **New Mexico State University - Las Cruces** **2801**
Operation of a two-station meteor patrol
Period *Obligations*
09/01/74-06/30/76 FY76: TOTAL: $42,247
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Beebe, R. F. LARC/Harvey, G. A. 11-Astronomy

NAS 2-8496 **New Mexico State University - Las Cruces** **2802**
Solar pointing Aerobee rocket system launch support
Period *Obligations*
08/01/74-07/31/77 FY76: $170,000 TOTAL: $336,800
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Weinberg, J. L. ARC/Van Ess, J. C. 99-Multi-Discip
Thomason, S. ARC/Chisel, D. M.

NAS 5-20681 **New Mexico State University - Las Cruces** **2803**
Field and analytical engineering support of the sounding rocket program
Period *Obligations*
07/26/74-01/31/77 FY76: $703,499 TOTAL: $1,438,499
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sayles, A., Jr. GSFC/Bissell, E. E., Jr.
19-Phys Sci, NEC
GSFC/Conrad, R. W.

NAS 6-2686 **New Mexico State University - Las Cruces** **2804**
Tone ranging/telemetering interferometer system
Period *Obligations*
11/21/75-06/20/76 FY76: $87,826 TOTAL: $87,826
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gammill, B. G. WFC/West, W. W. 46-Mech Engr
WFC/Bell, H. T.

NAS 9-95469 **New Mexico State University - Las Cruces** **2805**
Antenna design evaluation and study
Period *Obligations*
06/28/76-08/15/76 FY76: $9,473 TOTAL: $9,473
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Carver, K. JSC/Nitschke, H. A. 47-Materials Engr

NASW 2928 **New Mexico State University - Las Cruces** **2806**
Symposium on Aeronautics and Space to Motivate Minorities and Women Toward Science and Engineering
Period *Obligations*
04/09/76-06/30/76 FY76: $23,039 TOTAL: $23,039
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Alba, A. HQ-U/Monroe, R. 41-Aero Engr
Hernandez, J. W. JSC/Atkinson, J. D.

NAS10-7399 **New Mexico State University - Las Cruces** **2807**
Telemetry research & development in telemetry field services in support of unmanned launch operations
Period *Obligations*
12/02/70-12/01/74 FY76: TOTAL: $1,665,226
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bumgarner, R. A. KSC/Schlimmer, G. E. 45-Elec Engr
Noda, T. T. KSC/MacKey, A. J.

NAS10-8712 **New Mexico State University - Las Cruces** **2808**
Research and development and technical operations support
Period *Obligations*
12/02/74-12/01/76 FY76: $320,000 TOTAL: $510,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Unavailable KSC/Schlimmer, G.E. 19-Phys Sci, NEC

NGL 32-003-001 **New Mexico State University - Las Cruces** **2809**
Photographic patrol and study of physical conditions on the moon and planets
Period *Obligations*
04/15/61-04/30/77 FY76: TOTAL: $1,693,047
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Beebe, R. F. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGL 32-003-069 **New Mexico State University - Las Cruces** **2810**
X-ray crystal reflectivity measurements
Period *Obligations*
05/01/72-05/31/75 FY76: TOTAL: $13,203
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Liefeld, R. J. HQ-SA/Roman, N. G. 11-Astronomy

NASA'S UNIVERSITY PROGRAM
NEW MEXICO (Continued)

NGT 32-003-750 New Mexico State University - Las Cruces 2811
Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/75-05/31/77	FY76: $7,000	TOTAL: $14,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zimmerman, R. M.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	49-Engr, NEC

NSG 3069 New Mexico State University - Las Cruces 2812
Interferogram analysis of periodic spectra

Period	*Obligations*	
05/15/75-05/14/77	FY76:	TOTAL: $73,316
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Armstrong, R. L.	LERC/Salzman, J. A.	13-Physics

NSG 3092 University of Albuquerque 2813
In situ analysis of trace metal ion pollutants in natural waters

Period	*Obligations*	
01/05/76-01/04/77	FY76: $33,160	TOTAL: $33,160
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Urzendowski, R. M.	LERC/Fordyce, J. S.	12-Chemistry

NAS 1-11855 University of New Mexico 2814
Participation in science planning for Viking 1975 missions in area of inorganic chemistry

Period	*Obligations*	
08/18/72-03/31/77	FY76: $14,953	TOTAL: $42,488
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Keil, K.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	12-Chemistry

NAS 3-18522 University of New Mexico 2815
Technical search and processing of abstracts into documents for five specific fields of energy

Period	*Obligations*	
05/16/74-08/15/75	FY76:	TOTAL: $15,522
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Long, W. W.	LERC/Hyland, R. F.	49-Engr, NEC

NAS 3-19434 University of New Mexico 2816
Technical search and processing of abstracts into documents for eight specific fields of energy

Period	*Obligations*	
05/08/75-10/07/76	FY76: $6,026	TOTAL: $6,026
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Burch, E.	LERC/Hyland, R. F.	49-Engr, NEC

NASW 2399 University of New Mexico 2817
Operation of a regional dissemination center in the technology application center

Period	*Obligations*	
09/22/72-06/01/74	FY76:	TOTAL: $485,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shinnick, W. A.	HQ-KT/Holley, H. L.	99-Multi-Discip

NASW 2633 University of New Mexico 2818
Operation of the technology application center

Period	*Obligations*	
07/01/74-06/30/75	FY76:	TOTAL: $299,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-KT/Bivins, R. G.	99-Multi-Discip

NASW 2805 University of New Mexico 2819
Operation of a NASA Industrial Applications Center

Period	*Obligations*	
09/11/75-06/30/76	FY76: $227,984	TOTAL: $227,984
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-KT/Bivins, R. G.	99-Multi-Discip

NCA 2-510502 University of New Mexico 2820
Control mechanism of metabolism during poikilothermia

Period	*Obligations*	
01/01/75-12/31/75	FY76:	TOTAL: $1,900
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Riedesel, M. L.	ARC/Zill, L. P.	51-Biology

NCA 5-31 University of New Mexico 2821
Research on comets

Period	*Obligations*	
09/16/74-12/31/75	FY76: $543	TOTAL: $5,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Regener, V. H.	GSFC/Hyder, C. L.	31-Atmos Sci

NCA 5-32 University of New Mexico 2822
Research on solar phenomena

Period	*Obligations*	
09/16/74-09/30/75	FY76:	TOTAL: $2,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Regener, V. H.	GSFC/Jones, H. P.	31-Atmos Sci

NCA 5-34 University of New Mexico 2823
Research on hydromagnetic phenomena in comet tails

Period	*Obligations*	
09/16/74-12/31/75	FY76:	TOTAL: $3,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Regener, V. H.	GSFC/Hyder, C. L.	31-Atmos Sci

NCA 5-36 University of New Mexico 2824
Research on photoelectric photometry of the visible counterparts of celestial X-ray sources

Period	*Obligations*	
12/15/74-12/31/75	FY76:	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
John, R. S.	GSFC/Maran, S. P.	31-Atmos Sci

NCA 5-41 University of New Mexico 2825
Theoretical study of two excited electronic states of hydrogen molecular ion H2
Period *Obligations*
02/17/75-07/15/75 FY76: TOTAL: $7,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Beckel, C. L. GSFC/Temkin, A. 13-Physics

NCA 5-55 University of New Mexico 2826
Molecular ion spectra research
Period *Obligations*
09/15/75-08/31/76 FY76: $7,000 TOTAL: $7,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Beckel, C. L. GSFC/Temkin, A. 11-Astronomy

NCA 5-56 University of New Mexico 2827
Solar physics research
Period *Obligations*
09/15/75-12/31/76 FY76: $1,200 TOTAL: $1,200
Prin. Invest *NASA Tech. Officer* *CASE Category*
Regener, V. H. GSFC/Jones, H. P. 11-Astronomy

NCA 5-57 University of New Mexico 2828
Cosmic X-ray sources investigations
Period *Obligations*
09/15/75-12/31/76 FY76: $19,500 TOTAL: $19,500
Prin. Invest *NASA Tech. Officer* *CASE Category*
St John, R. GSFC/Maran, S. P. 11-Astronomy

NGL 32-004-011 University of New Mexico 2829
Comparative study of lunar craters and terrestrial volcano-tectonic depressions in rhyolite ash-flow plateaus
Period *Obligations*
10/12/64-05/31/77 FY76: TOTAL: $395,800
Prin. Invest *NASA Tech. Officer* *CASE Category*
Elston, W. E. HQ-SM/Hanley, J. B. 32-Geological Sci
HQ-SM/Roberson, F. I.

NGL 32-004-042 University of New Mexico 2830
The proof-of-concept approach to the design and management of public policy problems
Period *Obligations*
02/19/68-06/30/75 FY76: TOTAL: $470,400
Prin. Invest *NASA Tech. Officer* *CASE Category*
Rosenthal, A. H. HQ-P/Morris, J. D. 75-Political Sci

NGL 32-004-063 University of New Mexico 2831
Lunar sample analysis
Period *Obligations*
01/06/71-01/31/79 FY76: $94,600 TOTAL: $608,385
Prin. Invest *NASA Tech. Officer* *CASE Category*
Keil, K. JSC/Harris, J. W. 12-Chemistry

NGL 32-004-064 University of New Mexico 2832
Mineralogy and chemistry of polymict-brecciated stone meteorites
Period *Obligations*
06/14/71-02/28/79 FY76: $78,700 TOTAL: $312,892
Prin. Invest *NASA Tech. Officer* *CASE Category*
Keil, K. HQ-SL/Stuartalexander, D. E.
32-Geological Sci
Fodor, R. V. HQ-SL/Flinn, E. A.
Inz, P. R.

NGR 32-004-026 University of New Mexico 2833
Numerical study of the flow in the vortex rate sensor
Period *Obligations*
05/27/66-12/31/76 FY76: TOTAL: $75,918
Prin. Invest *NASA Tech. Officer* *CASE Category*
Richards, C. G. LARC/Hellbaum, R. F. 46-Mech Engr

NGR 32-004-062 University of New Mexico 2834
Search for evidence of dynamic process
Period *Obligations*
06/22/70-12/31/76 FY76: $20,000 TOTAL: $130,250
Prin. Invest *NASA Tech. Officer* *CASE Category*
Elston, W. E. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Wahmann, R.

NGR 32-004-068 University of New Mexico 2835
Thermal radiation from interplanetary dust
Period *Obligations*
12/15/71-07/31/75 FY76: TOTAL: $75,810
Prin. Invest *NASA Tech. Officer* *CASE Category*
Peterson, A. W. HQ-SA/Boggess, N. W. 11-Astronomy

NGR 32-004-086 University of New Mexico 2836
Correlation between interplanetary magnetic field, solar wind, and cosmos
Period *Obligations*
08/15/73-08/14/76 FY76: TOTAL: $20,560
Prin. Invest *NASA Tech. Officer* *CASE Category*
Ahluwalia, H. S. HQ-SA/Calahan, H. D. 13-Physics

NGT 32-004-750 University of New Mexico 2837
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/75-05/31/77 FY76: $7,000 TOTAL: $14,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Theye, L. A. HQ-P/Pohly, J. G. 49-Engr, NEC
HQ-U/Jenkins, H. G.

NSG 2052 University of New Mexico 2838
Photography study of infrared airglow from C-990 airborne laboratory during space shuttle simulation
Period *Obligations*
10/15/74-10/15/76 FY76: $24,080 TOTAL: $54,580
Prin. Invest *NASA Tech. Officer* *CASE Category*
Peterson, A. W. ARC/Haughney, L. C. 31-Atmos Sci
Kieffaber, L. M.

NEW MEXICO (Continued)

NSG 7066 **University of New Mexico** **2839**
Geologic interpretation of lunar photography
Period *Obligations*
06/01/74-01/31/76 FY76: TOTAL: $11,690
Prin. Invest. *NASA Tech Officer* *CASE Category*
Elston, W. E. HQ-SM/Hanley, J. B. 32-Geological Sci
HQ-SM/Roberson, F. I.

NSG 902 **Western New Mexico U** **2840**
Investigation of acceptance of solar heating and cooling in the building industry in New Mexico
Period *Obligations*
08/01/75-07/31/76 FY76: $27,934 TOTAL: $27,934
Prin. Invest. *NASA Tech Officer* *CASE Category*
Lundahl, C. R. JPL/Bourke, R. D. 62-Social Aspects

NEW YORK

NAS 5-22529 **Adelphi University** **2841**
Study on increased thermal efficiency and reduction of particulate emissions of furnace
Period *Obligations*
07/15/75-05/15/76 FY76: $51,213 TOTAL: $51,213
Prin. Invest. *NASA Tech Officer* *CASE Category*
Dooher, J. P. GSFC/Tarlton, M. J. 39-Env Sci, NEC

NSG 2088 **Adelphi University** **2842**
Study of the thin turbulent shear layers on the optical transfer function of an imaging system
Period *Obligations*
09/01/75-04/30/77 FY76: $24,469 TOTAL: $24,469
Prin. Invest. *NASA Tech Officer* *CASE Category*
Steinmetz, W. J. ARC/Buell, D. A. 12-Chemistry

NAS 8-31711 **Alfred University** **2843**
Space processing application, shuttle payloads requirements specifications study
Period *Obligations*
09/26/75-06/01/76 FY76: $1,000 TOTAL: $1,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Lacourse, W. C. MSFC/Taylor, K. R. 19-Phys Sci, NEC
MSFC/Poe, J. W.

NAS 5-20961 **Brooklyn College** **2844**
Heavy modeling of an urbanized estuary
Period *Obligations*
02/24/75-09/23/76 FY76: TOTAL: $16,351
Prin. Invest. *NASA Tech Officer* *CASE Category*
Weil, C. B. GSFC/Schnetzler, C. C. 75-Political Sci

NCA 2-75602 **Brooklyn College** **2845**
Influence of weightlessness on the aging process
Period *Obligations*
06/15/76-06/14/77 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Cottrell, S. F. ARC/Miquel, J. 51-Biology

NSG 1166 **Brooklyn College** **2846**
Theoretical studies in medium and high-energy atomic physics
Period *Obligations*
06/16/75-12/15/76 FY76: TOTAL: $20,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Franco, V. LARC/Wilson, J. W. 13-Physics

NAS 5-22392 **City College of New York** **2847**
Numerical models of ocean circulation
Period *Obligations*
06/27/75-06/27/76 FY76: TOTAL: $24,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Pierson, W. J. GSFC/Mueller, J. L. 33-Oceanography

NAS 6-2439 **City College of New York** **2848**
GEOS-C research study
Period *Obligations*
02/04/74-01/31/76 FY76: TOTAL: $57,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Pierson, W. J. WFC/Rossi, L. C. 32-Geological Sci

NAS 9-13642 **City College of New York** **2849**
Joint meteorological, oceanographic and sensor evaluation program. Skylab experiment S-193
Period *Obligations*
07/01/73-06/30/76 FY76: $15,276 TOTAL: $378,833
Prin. Invest. *NASA Tech Officer* *CASE Category*
Pierson, W. J. JSC/Byrns, Z. H. 13-Physics

NAS 9-13940 **City College of New York** **2850**
Communication systems analysis study
Period *Obligations*
04/04/74-04/15/76 FY76: $30,000 TOTAL: $159,892
Prin. Invest. *NASA Tech Officer* *CASE Category*
Schilling, D. L. JSC/Batson, B. H. 45-Elec Engr
Scheinberg, N. JSC/Dawson, C. T.
Cicero, J. L.

NGL 33-013-034 **City College of New York** **2851**
Investigations of electromagnetics and statistical dynamics as applied to plasma propulsion
Period *Obligations*
03/22/68-07/31/76 FY76: $322 TOTAL: $80,322
Prin. Invest. *NASA Tech Officer* *CASE Category*
Tchen, C. M. HQ-NS/Thom, K. 13-Physics

NGL 33-013-040 **City College of New York** **2852**
Theoretical research in astrophysics and astronomy
Period *Obligations*
04/23/69-09/30/78 FY76: $20,000 TOTAL: $334,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Erlbach, E. GSFC/Stothers, R. B. 11-Astronomy
GSFC/Chiu, H. Y.

NGR 33-013-086 **City College of New York** **2853**
Models for large scale meteorological prediction experiments
Period *Obligations*
10/01/73-10/31/76 FY76: $41,000 TOTAL: $132,976
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Spar, J. GSFC/Halem, M. 31-Atmos Sci

NSG 1169 **City College of New York** **2854**
An adaptive learning control system for aircraft
Period *Obligations*
05/01/75-05/31/77 FY76: $29,971 TOTAL: $64,788
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mekel, R. LARC/Montgomery, R.C. 41-Aero Engr
LARC/Price, D. B.

NSG 1305 **City College of New York** **2855**
Large scale eddy transports in the upper atmosphere
Period *Obligations*
05/03/76-05/02/77 FY76: $25,000 TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chen, C. M. LARC/Turner, R. E. 31-Atmos Sci
LARC/Callis, L. B., Jr.

NSG 5013 **City College of New York** **2856**
Efficient processing of video signals
Period *Obligations*
06/15/74-09/30/76 FY76: $35,000 TOTAL: $70,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Schilling, D. L. GSFC/Miller, J. E. 45-Elec Engr

NSG 7144 **City College of New York** **2857**
Applications of satellite technology for regional organizations
Period *Obligations*
06/01/75-09/30/76 FY76: $185,939 TOTAL: $285,939
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Schilling, D. L. HQ-EE/Ernst, H. E. 49-Engr, NEC
Wecker, S. C. HQ-EE/Fang, A. C.

NSG 7028 **City Univ of Ny - Grad School & Univ Cen** **2858**
A statistical chemical and thermodynamic approach to the study of lunar rocks
Period *Obligations*
01/01/74-07/31/75 FY76: TOTAL: $17,786
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Saxena, S. K. HQ-SM/Kosofsky, L. J.
32-Geological Sci
HQ-SM/Roberson, F. I.

NAS 8-31708 **Clarkson College of Technology** **2859**
Space processing applications, shuttle payloads requirements specification study
Period *Obligations*
09/26/75-03/25/76 FY76: $5,000 TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cole, R. MSFC/Tatler, K. R. 19-Phys Sci, NEC
Wilcox, W. R. MSFC/Poe, J. W.

NAS 8-31709 **Clarkson College of Technology** **2860**
Space processing applications, shuttle payloads requirements specification study
Period *Obligations*
09/26/75-03/25/76 FY76: $5,000 TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wilcox, W. R. MSFC/Taylor, K. R. 19-Phys Sci, NEC
MSFC/Poe, J. W.

NSG 3100 **Clarkson College of Technology** **2861**
Polymer morphology and random chain scission
Period *Obligations*
07/01/76-06/30/77 FY76: $44,738 TOTAL: $44,738
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jellinek, H. H. LERC/Serafini, T. T. 12-Chemistry

NSG 7170 **Clarkson College of Technology** **2862**
Particle induced visual sensations
Period *Obligations*
09/01/75-08/31/76 FY76: $5,000 TOTAL: $5,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
McNulty, P. J. HQ-SB/Halstead, T. W.
59-Life Sci, NEC
Pease, V. P. HQ-SB/Jones, W. L.
Bond, V. P.

NAS 5-20023 **Columbia University** **2863**
Technical service operations and materials for cataloging books
Period *Obligations*
03/15/74-03/14/75 FY76: $6,409 TOTAL: $70,527
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fountain, T. D. GSFC/Jennings, N. 99-Multi-Discip

NAS 5-22311 **Columbia University** **2864**
Technical service operations and materials for cataloging books and other material
Period *Obligations*
03/14/75-03/14/76 FY76: TOTAL: $59,459
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Fountain, T. D. GSFC/Guntharp, P. A. 99-Multi-Discip

NAS 5-22341 **Columbia University** **2865**
Solar maximum measurement experiment
Period *Obligations*
05/06/75-09/05/75 FY76: $23,000 TOTAL: $76,300
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Novick, R. GSFC/Donley, J. L. 11-Astronomy
Wolff, R. S.

NAS 5-22408 **Columbia University** **2866**
Reduction and analysis of data from OSO-I graphite crystal X-ray spectrometer and polarimeter experiment
Period *Obligations*
06/26/75-06/24/77 FY76: $395,000 TOTAL: $495,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Novick, R. GSFC/Worrall, W. 31-Atmos Sci

NAS 5-22890 **Columbia University** **2867**
Studies of focusing Bragg polarimeter and conical Bragg crystal spectrometer for spacelab/shuttle missions
Period *Obligations*
02/19/76-11/18/76 FY76: $38,500 TOTAL: $38,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Novick, R. GSFC/White, A. F., Jr. 11-Astronomy

NAS 5-22936 **Columbia University** **2868**
Technical service operations and materials for acquisition, processing, and cataloging of books
Period *Obligations*
03/15/76-[illegible]/31/77 FY76: $22,210 TOTAL: $22,210
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lewis, J. P. GSFC/Jennings, N. 99-Multi-Discip

NAS 5-23623 **Columbia University** **2869**
Extreme ultra-violet and soft X-ray study
Period *Obligations*
06/21/76-11/05/76 FY76: $8,311 TOTAL: $8,311
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Novick, R. GSFC/Weinreb, M. B. 11-Astronomy

NAS 6-2455 **Columbia University** **2870**
Mapping of ocean tides using GEOS-C data
Period *Obligations*
03/15/74-03/15/76 FY76: $8,477 TOTAL: $69,377
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kuo, J. T. WFC/Stanley, H. R. 33-Oceanography
Jachens, R. C. WFC/Rossi, L. C.

NAS 6-2519 **Columbia University** **2871**
GEOS-C research
Period *Obligations*
10/16/74-10/31/77 FY76: $49,717 TOTAL: $139,317
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Talwani, M. WFC/Stanley, H. R. 32-Geological Sci
Watts, A. WFC/Rossi, L. C.

NAS 8-30753 **Columbia University** **2872**
Design, development and operation of the HEAO mission B X-ray telescope experiment
Period *Obligations*
06/01/74-12/31/79 FY76: $35,000 TOTAL: $70,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Novick, R. MSFC/Manning, H. S. 11-Astronomy
Angel, J. R. MSFC/Power, J. A.
Kestenbaum, H. L.

NAS 9-6037 **Columbia University** **2873**
Heat flow experiment for ALSEP
Period *Obligations*
06/06/66-12/31/75 FY76: TOTAL: $1,439,275
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Langseth, M. G. JSC/Eichelman, W. F. 19-Phys Sci, NEC

NAS 9-14931 **Columbia University** **2874**
Study developed disuse osteoporosis in animals troporosis
Period *Obligations*
01/01/76-12/31/78 FY76: $65,000 TOTAL: $65,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bassett, C. A. JSC/Rambaut, P. C. 53-Other Medical

NGR 33-008-102 **Columbia University** **2875**
Research in X-ray astronomy
Period *Obligations*
01/30/68-01/31/77 FY76: $350,002 TOTAL: $[illegible]98,842
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Novick, R. GSFC/Bissell, E. E., Jr. 11-Astronomy
HQ-SA/Opp, A. G.

NGR 33-008-146 **Columbia University** **2876**
Study of strain buildup, release and earthquake prediction
Period *Obligations*
02/09/71-08/31/76 FY76: $79,964 TOTAL: $306,283
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Scholz, C. H. GSFC/Smith, D. E. 19-Phys Sci, NEC
Johnson, T. L.

NGR 33-008-168 **Columbia University** **2877**
Economic impact of the NASA program
Period *Obligations*
09/21/71-02/27/76 FY76: $1,000 TOTAL: $75,850
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ginzberg, E. HQ-P/Morris, J. D. 72-Economics
Schnee, J. E. HQ-P/Hansing, F. D.
Yavitz, B.

NGR 33-008-177 **Columbia University** **2878**
Lunar sample analysis
Period *Obligations*
11/01/72-01/31/77 FY76: $33,800 TOTAL: $77,335
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Horai, K. JSC/Harris, J. W. 13-Physics

NGR 33-008-183 **Columbia University** **2879**
Study of nonequilibrium conditions in active regions during solar flares
Period *Obligations*
07/01/73-07/31/76 FY76: TOTAL: $25,259
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wolff, R. S. HQ-ST/Taylor, W. L. 11-Astronomy

NASA'S UNIVERSITY PROGRAM
NEW YORK (Continued)

NGR 33-008-189 **Columbia University** **2880**
Study of X-ray polarization of solar flares

Period	*Obligations*	
09/01/73-08/31/76	FY76:	TOTAL: $25,287
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wolff, R. S.	HQ-ST/Timothy, A. F.	11-Astronomy

NGR 33-008-191 **Columbia University** **2881**
Multidisciplinary research in the space sciences

Period	*Obligations*	
02/15/73-02/28/77	FY76: $500,277	TOTAL: $1,737,796
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hartmann, S. R. Broecker, W. S.	GSFC/Thaddeus, P. GSFC/Halem, M.	11-Astronomy

NGR 33-008-194 **Columbia University** **2882**
Detailed studies of the nonperiodic time variability of several galactic X-ray sources

Period	*Obligations*	
11/01/73-03/31/75	FY76:	TOTAL: $20,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weisskopf, M. C.	HQ-SA/Roman, N. G.	11-Astronomy

NGR 33-008-199 **Columbia University** **2883**
Petrological study of lithic clasts in Apollo 14 breccias: determination of bulk chemistry and mineralogy as constraints on highlands petrogenesis and evolution

Period	*Obligations*	
02/01/74-01/31/77	FY76: $66,200	TOTAL: $146,822
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ridley, W. I.	JSC/Harris, J. W.	12-Chemistry

NGR 33-008-200 **Columbia University** **2884**
Analysis and interpretation of rocket X-ray polarimetric data for solar X-ray astronomy

Period	*Obligations*	
10/01/73-03/31/75	FY76:	TOTAL: $24,860
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Novick, R.	HQ-ST/Timothy, A. F.	11-Astronomy

NSG 1059 **Columbia University** **2885**
Structural response of reusable surface insulation panels of space shuttle to random pressure fields

Period	*Obligations*	
07/01/74-06/30/76	FY76:	TOTAL: $25,393
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Vaicaitis, R.	LARC/Mixson, J. S.	41-Aero Engr

NSG 1115 **Columbia University** **2886**
Effects of aircraft noise on human response

Period	*Obligations*	
10/01/74-08/14/76	FY76: $109,875	TOTAL: $149,755
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Galanter, E. Golding, N.	LARC/Cawthorn, J. M.	69-Psych, NEC

NSG 1164 **Columbia University** **2887**
Study of community annoyance with aircraft noise in the vicinity of JFK airport

Period	*Obligations*	
04/01/75-08/31/76	FY76: $85,000	TOTAL: $215,634
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Borsky, P. N.	LARC/Powell, C. A.	49-Engr, NEC

NSG 3050 **Columbia University** **2888**
Creep and stress rupture behavior of oxide dispersion strengthened super alloys

Period	*Obligations*	
06/01/75-06/01/77	FY76: $38,846	TOTAL: $74,364
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tien, J. K.	LERC/Glasgow, T.K.	47-Materials Engr

NSG 5072 **Columbia University** **2889**
Surface deformation and elasticity studies

Period	*Obligations*	
08/01/75-03/31/77	FY76: $48,766	TOTAL: $48,766
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bilham, R. G.	GSFC/Smith, D. E.	32-Geological Sci

NSG 5079 **Columbia University** **2890**
High spatial resolution study of extended X-ray sources using Copernicus satellite and sounding rockets observations

Period	*Obligations*	
09/01/75-02/28/77	FY76: $9,909	TOTAL: $9,909
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wolff, R. S.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 5080 **Columbia University** **2891**
Application of LANDSAT data to agricultural resource problems

Period	*Obligations*	
08/15/75-08/14/76	FY76: $62,286	TOTAL: $62,286
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Webb, K. E. High, C. J. Coiner, J. C.	GSFC/Ungar, S. G.	32-Geological Sci

NSG 5118 **Columbia University** **2892**
High resolution spectroscopy of variable X-ray sources

Period	*Obligations*	
06/01/76-05/31/77	FY76: $7,500	TOTAL: $7,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wolff, R. S.	GSFC/Kupperian, J. E.	11-Astronomy

NSG 7075 **Columbia University** **2893**
Solar X-ray polarimentry

Period	*Obligations*	
07/01/74-06/30/76	FY76:	TOTAL: $123,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Novick, R.	HQ-ST/Timothy, A. F.	11-Astronomy

NSG 7105 **Columbia University** **2894**

Calculation of collision cross sections of astrophysical interest

Period	Obligations	
12/01/74-11/30/76	FY76: $35,000	TOTAL: $70,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Austin, P. M.	HQ-SA/Boggess, N. W.	11-Astronomy
Geotis, S. G.	HQ-SA/Roman, N. G.	

NSG 7194 **Columbia University** **2895**

A critical study of constraints imposed by existing observational data

Period	Obligations	
02/01/76-01/31/77	FY76: $38,617	TOTAL: $38,617

Prin. Invest.	NASA Tech. Officer	CASE Category
Langseth, M. G.	HQ-SL/Williams, R. J.	32-Geological Sci
Nafe, J. E.	HQ-SL/Flinn, E. A.	
Dley, R. I.		

NSG 7200 **Columbia University** **2896**

Rare-earth element abundance studies in chrondite meteorites

Period	Obligations	
03/01/76-02/28/77	FY76: $53,064	TOTAL: $53,064

Prin. Invest.	NASA Tech. Officer	CASE Category
O'Nions, R. K.	HQ-SL/French, B. M.	32-Geological Sci
Evensen, N. M.	HQ-SL/Flinn, E. A.	

NSG 7248 **Columbia University** **2897**

Detailed studies of time variability of the galactic X-ray sources Cygnus x-1 and Scorpius x-1

Period	Obligations	
06/15/76-06/14/77	FY76: $20,000	TOTAL: $20,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Weisskopf, M. C.	HQ-SA/Sofia, S.	11-Astronomy
	HQ-SA/Opp, A. G.	

NSG 9025 **Columbia University** **2898**

An inquiry into the low seismic attenuation of lunar crust

Period	Obligations	
02/01/75-01/31/77	FY76: $13,245	TOTAL: $43,345

Prin. Invest.	NASA Tech. Officer	CASE Category
Schreiber, E.	JSC/Harris, J. W.	32-Geological Sci

NAS 1-9683 **Cornell University** **2899**

Participation in the science planning for the Viking 1975 missions in the area of imaging

Period	Obligations	
04/08/70-03/31/77	FY76: $30,904	TOTAL: $236,343

Prin. Invest.	NASA Tech. Officer	CASE Category
Sagan, C. E.	LARC/Williams, T. S., Jr.	99-Multi-Discip
	LARC/Glenny, W. R.	

NAS 2-7846 **Cornell University** **2900**

Study on cells and embryogenesis in space

Period	Obligations	
09/01/73-11/30/75	FY76:	TOTAL: $91,694

Prin. Invest.	NASA Tech. Officer	CASE Category
Steward, F. C.	ARC/Tremor, J. W.	51-Biology
Krikorian, A. D.		

NAS 2-8706 **Cornell University** **2901**

100 micron detector development program

Period	Obligations	
01/02/75-12/31/75	FY76:	TOTAL: $14,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Houck, J. R.	ARC/Erickson, E. F.	11-Astronomy
	ARC/Witteborn, F. C.	

NAS 5-20705 **Cornell University** **2902**

Theoretical investigation for atmospheric Explorer C, D & E missions

Period	Obligations	
08/19/74-11/19/77	FY76: $42,000	TOTAL: $82,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Walker, J. C.	GSFC/Findlay, J. A.	13-Physics

NAS 5-22586 **Cornell University** **2903**

Mission definition study of an astronomical satellite survey in the infrared

Period	Obligations	
06/15/75-09/06/76	FY76: $12,237	TOTAL: $12,237

Prin. Invest.	NASA Tech. Officer	CASE Category
Houck, J. R.	GSFC/Hymowitz, E. W.	11-Astronomy
Forrest, W. I.		

NAS 5-23236 **Cornell University** **2904**

Feasibility study for infrared interferometer, spectrometer, & radiometer for Mariner/Jupiter 1977 launch

Period	Obligations	
05/01/73-06/30/77	FY76: $8,000	TOTAL: $24,300

Prin. Invest.	NASA Tech. Officer	CASE Category
Gierasch, P. J.	GSFC/Conrath, B. J.	13-Physics
	GSFC/Hanel, R. A.	

NASW 2573 **Cornell University** **2905**

Control elements for an unmanned Martian roving vehicle

Period	Obligations	
09/01/73-11/30/74	FY76:	TOTAL: $89,800

Prin. Invest.	NASA Tech. Officer	CASE Category
Wehe, R. L.	HQ-SL/Tarver, P.	49-Engr, NEC
	HQ-SL/Herman, D. H.	

NASW 2750 **Cornell University** **2906**

Control elements for an unmanned Martian roving vehicle

Period	Obligations	
09/01/74-08/31/75	FY76:	TOTAL: $80,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Wehe, R. L.	HQ-SL/Tarver, P.	49-Engr, NEC
Osborn, R. E.	HQ-SL/Herman, D. H.	

NGL 33-010-005 **Cornell University** **2907**
Studies of lunar surface & solar atmosphere in vicinity of the moon
Period — *Obligations*
03/13/63-01/31/76 FY76: $23,000 TOTAL: $1,646,508
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Gold, T. HQ-SM/Stuart-Alexander, D. E. 32-Geological Sci
HQ-SM/Roberson, F. I.

NGL 33-010-064 **Cornell University** **2908**
High energy molecular lasers
Period — *Obligations*
03/15/68-12/31/76 FY76: $45,000 TOTAL: $378,492
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Cool, T. A. LARC/Allario, F. 13-Physics

NGL 33-010-082 **Cornell University** **2909**
The study of lunar and planetary surfaces and atmospheres
Period — *Obligations*
09/23/68-08/31/78 FY76: $73,640 TOTAL: $558,718
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Sagan, C. E. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NGL 33-010-171 **Cornell University** **2910**
A program in remote sensing
Period — *Obligations*
02/14/72-05/31/79 FY76: $100,000 TOTAL: $600,000
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Liang, T. HQ-P/Vitale, J. A. 39-Env Sci, NEC

NGL 33-010-186 **Cornell University** **2911**
Studies of thermal structure and motion of planetary atmospheres
Period — *Obligations*
04/18/73-06/14/79 FY76: $50,799 TOTAL: $129,460
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Gierasch, P. J. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NGR 33-010-081 **Cornell University** **2912**
2 to 4 micron spectroscopy of Mars
Period — *Obligations*
03/01/73-08/30/76 FY76: $45,000 TOTAL: $120,897
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Houck, J. R. ARC/Cameron, R. M. 11-Astronomy
Sagan, C. E. ARC/Gillespie, C. M., Jr.
Pollack, J.

NGR 33-010-101 **Cornell University** **2913**
An integrated program in exobiology and problems related to origin of life
Period — *Obligations*
10/09/69-09/30/76 FY76: $75,000 TOTAL: $519,945
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Sagan, C. E. HQ-SB/Young, R. S. 12-Chemistry
Khare, B. N.

NGR 33-010-108 **Cornell University** **2914**
Implications of convection within the moon
Period — *Obligations*
05/18/70-01/31/77 FY76: $27,432 TOTAL: $118,828
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Turcotte, D. L. HQ-SM/Stuart-Alexander, D. E. 32-Geological Sci
Burns, J. A. HQ-SL/Flinn, E. A.

NGR 33-010-137 **Cornell University** **2915**
Lunar sample analysis
Period — *Obligations*
02/12/71-09/30/76 FY76: $50,000 TOTAL: $238,313
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Gold, T. JSC/Harris, J. W. 13-Physics

NGR 33-010-145 **Cornell University** **2916**
Cosmic gamma-ray telescope
Period — *Obligations*
01/06/71-01/31/76 FY76: TOTAL: $258,300
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Greisen, K. I. HQ-SA/Opp, A. G. 11-Astronomy

NGR 33-010-146 **Cornell University** **2917**
Submillimeter astronomical spectrometry from aircraft
Period — *Obligations*
02/16/72-08/31/76 FY76: $49,885 TOTAL: $150,814
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Harwit, M. O. ARC/Cameron, R. M. 11-Astronomy
Ward, D. ARC/Mason, R. H.

NGR 33-010-161 **Cornell University** **2918**
Studies of the magnetospheres of Earth and Jupiter
Period — *Obligations*
01/18/72-06/30/77 FY76: $60,000 TOTAL: $177,790
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Farley, D. T. HQ-ST/Taylor, W. W. 13-Physics
HQ-ST/Schmerling, E. R.

NGR 33-010-172 **Cornell University** **2919**
Research in a multiband far infrared surface with a balloon-borne telescope
Period — *Obligations*
11/20/72-09/19/76 FY76: $60,000 TOTAL: $204,517
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Harwit, M. O. HQ-SA/Boggess, N. W. 11-Astronomy
Frederick, C. L. HQ-SA/Roman, N. G.

NGR 33-010-178 **Cornell University** **2920**
Analysis of Apollo 12 and Explorer 35 magnetometer data
Period — *Obligations*
06/13/72-01/31/77 FY76: $7,725 TOTAL: $95,418
Prin. Invest. — *NASA Tech. Officer* — *CASE Category*
Kuckes, A. F. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NASA'S UNIVERSITY PROGRAM

NEW YORK (Continued)

NGR 33-010-182 **Cornell University** **2921**
16 to 40 micron spectroscopy of Jupiter

Period	*Obligations*	
12/20/72-08/30/76	FY76: $50,766	TOTAL: $153,084
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Houck, J. R.	ARC/Cameron, R. M.	11-Astronomy
Pollack, J. B.	ARC/Mason, R. H.	

NGR 33-010-188 **Cornell University** **2922**
Astrophysical material science theory

Period	*Obligations*	
08/01/72-06/30/76	FY76: $36,371	TOTAL: $140,371
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Krumhansl, J. A.	LERC/Brown, G. V.	13-Physics
Ashcroft, N. W.		

NGR 33-010-189 **Cornell University** **2923**
Ultra pressure materials science

Period	*Obligations*	
08/01/75-06/30/76	FY76: $110,000	TOTAL: $380,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ruoff, A. L.	LERC/Aron, P. R.	47-Materials Engr
Ashcroft, N. W.		

NGR 33-010-210 **Cornell University** **2924**
High resolution 10-micron spectra at different planetary latitudes

Period	*Obligations*	
09/01/73-08/31/76	FY76: $11,600	TOTAL: $72,118
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harwit, M. O.	HQ-SL/Brunk, W. E.	11-Astronomy
	HQ-SL/Fellows, R. F.	

NGR 33-010-220 **Cornell University** **2925**
Interdisciplinary investigations of Mariner 9 data

Period	*Obligations*	
12/05/73-06/30/76	FY76: $25,763	TOTAL: $159,763
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sagan, C. E.	HQ-SL/Dwornik, S. E.	32-Geological Sci
Veverka, J.	HQ-SL/Wahmann, R.	

NSG 1263 **Cornell University** **2926**
Noise and systematic errors common to many Hadamard transform optical systems

Period	*Obligations*	
12/01/75-11/30/76	FY76: $19,961	TOTAL: $19,961
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harwit, M. O.	LARC/Jobson, D. J.	13-Physics

NSG 2078 **Cornell University** **2927**
Structural characterization of hydrogen attack

Period	*Obligations*	
04/01/75-04/01/77	FY76: $32,250	TOTAL: $64,509
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, H. H.	ARC/Nelson, H. G.	47-Materials Engr

NSG 3019 **Cornell University** **2928**
Flow processes in combusters

Period	*Obligations*	
07/01/74-06/30/77	FY76: $75,700	TOTAL: $214,605
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gouldin, F. C.	LERC/Marek, C. J.	41-Aero Engr
Leibovich, S.	LERC/Grobman, J. S.	
Lean, M. C.		

NSG 3080 **Cornell University** **2929**
Theoretical analysis of impact of composite plates

Period	*Obligations*	
09/01/75-09/01/76	FY76: $29,439	TOTAL: $29,439
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moon, F. C.	LERC/Chamis, C. C.	41-Aero Engr
	LERC/Johns, R. H.	

NSG 5037 **Cornell University** **2930**
Studies in support of the analysis of astronomical data from Apollo 16

Period	*Obligations*	
12/01/74-08/31/75	FY76:	TOTAL: $12,190
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Greisen, K. I.	GSFC/Trombka, J. I.	11-Astronomy

NSG 5060 **Cornell University** **2931**
Comparison between calculated gravity anomalies for dynamic processes in the mantle and observations

Period	*Obligations*	
04/01/75-03/31/77	FY76: $43,000	TOTAL: $60,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Turcotte, D. L.	GSFC/Smith, D. E.	32-Geological Sci

NSG 7104 **Cornell University** **2932**
Theoretical studies of the ionosphere using satellite and ground bases

Period	*Obligations*	
11/25/74-11/30/75	FY76:	TOTAL: $25,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Walker, J. C.	HQ-ST/Schmerling, E. R.	13-Physics

NSG 7126 **Cornell University** **2933**
High spatial resolution multicolor observation of Neptune during occultation by the Moon

Period	*Obligations*	
01/01/75-10/31/76	FY76: $5,990	TOTAL: $45,418
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Veverka, J.	HQ-SL/Brunk, W. E.	11-Astronomy
	HQ-SL/Fellows, R. F.	

NSG 7135 **Cornell University** **2934**
Comparative study of planetary bow shocks and magnetospheres

Period	*Obligations*	
05/31/75-05/31/76	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Auer, P. L.	HQ-ST/Schmerling, E. R.	13-Physics

NSG 7156 **Cornell University** **2935**
Physical studies of planetary surfaces
Period *Obligations*
07/01/75-06/30/76 FY76: $25,000 TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Veverka, J. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NSG 7235 **Cornell University** **2936**
Light-induced amino acid transport by envelope vesicles of halobacterium halobium cells
Period *Obligations*
03/01/76-02/28/77 FY76: $33,500 TOTAL: $33,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
MacDonald, R. E. HQ-SB/Young, R. S. 51-Biology

NSG 7243 **Cornell University** **2937**
Occultation studies of planets and satellites: the occultation of a geminorum by Mars
Period *Obligations*
02/01/76-09/30/76 FY76: $16,420 TOTAL: $16,420
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Elliot, J. L. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NAS 8-31513 **Cornell University - Medical Center** **2938**
Separation of lymphocytes by electrophoresis under terrestrial conditions and at zero gravity
Period *Obligations*
06/05/75-01/04/77 FY76: $60,000 TOTAL: $72,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rubin, A. L. MSFC/Nerren, B. H. 99-Multi-Discip
Stenzel, K. H. MSFC/Allen, R. E.

NGR 33-010-179 **Cornell University - Medical Center** **2939**
Central neural mechanisms governing postual cardiovascular reflexes
Period *Obligations*
05/25/72-06/14/76 FY76: TOTAL: $173,760
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Reis, D. J. ARC/Sandler, H. 53-Other Medical

NGR 33-209-002 **Holstra University** **2940**
Radar studies and application of measurements of ocean wave height and distinctive spectrum
Period *Obligations*
03/28/72-01/31/77 FY76: TOTAL: $64,441
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Weissman, D. E. LARC/Swift, C. T. 45-Elec Engr

NAS 2-7963 **New York University** **2941**
Pioneer F/G data analysis of zodiacal light experiment
Period *Obligations*
01/04/74-06/30/76 FY76: $101,801 TOTAL: $319,916
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Weinberg, J. L. ARC/Hall, C. F. 11-Astronomy
ARC/Porter, D. L.

NGL 33-016-013 **New York University** **2942**
Theoretical research on the properties of the atmosphere of the earth and other planets and on the atmospheric effects of solar activity
Period *Obligations*
06/01/73-06/30/76 FY76: TOTAL: $591,181
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Isaacson, E. GSFC/Halem, M. 31-Atmos Sci
Stoker, J. J., Jr.

NGL 33-016-119 **New York University** **2943**
Engine effect on sonic boom; unsteady engine inlet interaction
Period *Obligations*
06/05/67-07/31/76 FY76: $31,020 TOTAL: $550,649
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ferri, A. LARC/Fetterman, D. E. 41-Aero Engr
Ting, L.

NGR 33-016-131 **New York University** **2944**
Hypersonic engine airplane integration
Period *Obligations*
02/27/68-09/30/76 FY76: $110,000 TOTAL: $1,074,571
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Zakkay, V. LARC/Huber, P. W. 41-Aero Engr
Agnone, A.

NGR 33-016-167 **New York University** **2945**
Numerical design of transonic shockless airfoils
Period *Obligations*
10/01/70-08/31/76 FY76: $80,000 TOTAL: $515,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Garabedian, P. R. LARC/South, J. C., Jr. 21-Mathematics

NGR 33-016-196 **New York University** **2946**
Physical properties of molecular clouds
Period *Obligations*
09/01/73-10/31/76 FY76: $44,351 TOTAL: $84,351
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Glassgold, A. E. HQ-SA/Rosendahl, J. D. 13-Physics
HQ-SA/Roman, N. G.

NGR 33-016-197 **New York University** **2947**
Scale model wind tunnel study of dispersion of pollutants in the Cleveland area
Period *Obligations*
03/15/73-12/31/75 FY76: TOTAL: $90,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hoydysh, W. G. LERC/Neustadter, H. E.
39-Env Sci, NEC

NGR 33-016-201 **New York University** **2948**
Study of transonic flow over yawed wings
Period *Obligations*
05/29/73-08/31/76 FY76: $50,000 TOTAL: $150,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Garabedian, P. R. ARC/Hicks, R. M. 41-Aero Engr
Jameson, A. ARC/Pfyl, F. A.
Bauer, F.

NASA'S UNIVERSITY PROGRAM
NEW YORK (Continued)

NSG 1291 **New York University** **2949**

Sound propagation through a jet exiting from a circular duct

Period	*Obligations*	
03/01/76-02/28/77	FY76: $32,000	TOTAL: $32,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ting, L.	LARC/Liu, C. H.	41-Aero Engr

NSG 1298 **New York University** **2950**

Definition of future SST required pollution characteristics as a function of fuel use, flight Mach number and altitude

Period	*Obligations*	
04/01/76-11/01/76	FY76: $20,050	TOTAL: $20,050
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoffert, M. I.	LARC/McLean, F. E.	39-Env Sci, NEC

NSG 1303 **New York University** **2951**

An experimental investigation of the aerodynamics of slender finned bodies at high angles of attack

Period	*Obligations*	
05/01/76-08/31/76	FY76: $50,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zakkay, V.	LARC/Stallings, R. L.	41-Aero Engr

NSG 3059 **New York University** **2952**

Analysis of experiments on hydrodynamics instability in the absence of gravity

Period	*Obligations*	
06/01/75-03/31/77	FY76: $21,614	TOTAL: $41,614
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Keller, J. B.	LERC/Labus, T. L.	49-Engr, NEC

NSG 5032 **New York University** **2953**

Optimization and machine independence of programming languages

Period	*Obligations*	
12/01/74-11/30/76	FY76: $28,702	TOTAL: $64,510
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schwartz, J. T.	GSFC/Schneck, P. B. GSFC/Halem, M.	13-Physics

NSG 5033 **New York University** **2954**

Atmospheric chemistry and transport models of the natural and perturbed stratosphere

Period	*Obligations*	
12/01/74-01/31/76	FY76:	TOTAL: $25,249
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoffert, M. I.	GSFC/Stewart, P. W.	31-Atmos Sci

NSG 5034 **New York University** **2955**

Research program in climatology and meteorology

Period	*Obligations*	
01/01/75-12/31/76	FY76: $76,000	TOTAL: $128,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Isaacson, E. Stoker, J. J., Jr.	GSFC/Halem, M. GSFC/Hansen, J. E.	31-Atmos Sci

NSG 5045 **New York University** **2956**

Investigation of the planetary boundary layer in relation to large scale atmospheric dynamics

Period	*Obligations*	
01/01/75-01/31/77	FY76: $25,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoffert, M. I.	GSFC/Halem, M. GSFC/Schneck, P. B.	31-Atmos Sci

NSG 7116 **New York University** **2957**

A study of solar-interplanetary relationship using galactic cosmic ray decreases

Period	*Obligations*	
03/01/75-02/29/76	FY76:	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Korff, S. A.	HQ-SA/Lazarus, A. J. HQ-SA/Opp, A. G.	11-Astronomy

NSG 7169 **New York University** **2958**

Study of the economic impact of space exploration

Period	*Obligations*	
10/01/75-12/31/76	FY76: $25,630	TOTAL: $25,630
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Morgenstern, O.	HQ-K/Gray, E. Z.	72-Economics

NCA 2-595501 **Polytechnic Institute of New York** **2959**

Stability of new transparent polymeric materials

Period	*Obligations*	
01/20/75-06/01/76	FY76:	TOTAL: $9,994
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pearce, E. M.	ARC/Zill, L. P.	12-Chemistry

NGR 33-006-047 **Polytechnic Institute of New York** **2960**

Investigation of diffraction by planetary atmospheres

Period	*Obligations*	
03/25/68-03/31/77	FY76: $18,000	TOTAL: $192,509
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gross, S. H.	HQ-ST/Taylor, W. W. HQ-ST/Schmerling, E. R.	13-Physics

NGR 33-006-068 **Polytechnic Institute of New York** **2961**

Study of escape of gases from comets, planets, and satellites

Period	*Obligations*	
12/26/72-12/31/76	FY76: $31,307	TOTAL: $117,764
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gross, S. H.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGR 33-006-070 **Polytechnic Institute of New York** **2962**

Synthesis of polypeptides, sugar phosphates and polynucleotides from intermediates under simulated conditions

Period	*Obligations*	
04/26/73-06/14/77	FY76: $1,000	TOTAL: $130,448
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Eirich, F. R.	HQ-SB/Young, R. S.	12-Chemistry

NSG 1198 **Polytechnic Institute of New York** 2963
Applicability of Brillouin scattering to flow field diagnostics

Period	*Obligations*	
07/01/75-06/30/77	FY76:	TOTAL: $20,776
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lederman, S.	LARC/Hoppe, J. C. LARC/Hunter, W. W., Jr.	42-Astro Engr

NSG 1244 **Polytechnic Institute of New York** 2964
Spline collocation for viscous flow

Period	*Obligations*	
10/01/75-09/30/76	FY76: $12,000	TOTAL: $12,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rubin, S. G.	LARC/Rudy, D. H. LARC/Harris, J. E.	41-Aero Engr

NSG 1248 **Polytechnic Institute of New York** 2965
Extended conformal mappings for supersonic aircraft calculations

Period	*Obligations*	
10/01/75-09/30/76	FY76: $37,992	TOTAL: $37,992
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moretti, G.	LARC/Salas, M. D. LARC/Mascitti, V. R.	41-Aero Engr

NSG 1300 **Polytechnic Institute of New York** 2966
Wing body aerodynamic interference investigation

Period	*Obligations*	
04/01/76-03/31/77	FY76: $29,942	TOTAL: $29,942
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Krenkel, A. R.	LARC/Morgan, H. L., Jr. LARC/Thomas, J. L.	41-Aero Engr

NSG 2147 **Polytechnic Institute of New York** 2967
Exploratory synthesis of new fire-safe polymeric materials

Period	*Obligations*	
05/01/76-04/30/77	FY76: $39,948	TOTAL: $39,948
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pearce, E. M. Banks, E. Ordano, G. I. Parker, J. A.	ARC/Fohlen, G. M.	12-Chemistry

NSG 3108 **Polytechnic Institute of New York** 2968
Application of Raman diagnostics to combustion

Period	*Obligations*	
06/01/76-05/31/79	FY76: $47,987	TOTAL: $47,987
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lederman, S.	LERC/Will, H. A.	13-Physics

NSG 5041 **Polytechnic Institute of New York** 2969
Meteorology and atmospheric physics research

Period	*Obligations*	
01/01/75-06/30/75	FY76:	TOTAL: $12,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Miller, J. E.	GSFC/Halem, M. GSFC/Hansen, J. E.	31-Atmos Sci

NSG 9022 **Queens College** 2970
Sedimentological studies of lunar cores utilizing X-ray enhancement techniques

Period	*Obligations*	
02/01/75-02/28/77	FY76: $49,137	TOTAL: $63,137
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Coch, N. K.	JSC/Harris, J. W.	32-Geological Sci

NAS 8-26146 **Rensselaer Polytechnic Institute** 2971
Growth of single crystals by vapor transport in zero gravity environment

Period	*Obligations*	
06/04/70-10/06/76	FY76: $35,000	TOTAL: $203,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wiedmann, H.	MSFC/Davidson, M. C. MSFC/Arnett, G. M.	47-Materials Engr

NAS 8-28307 **Rensselaer Polytechnic Institute** 2972
Vapor growth of II-VI compounds

Period	*Obligations*	
10/11/72-10/15/75	FY76:	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wiedemeier, H.	MSFC/Adams, W. R. MSFC/Davidson, M. C.	19-Phys Sci, NEC

NAS 8-30578 **Rensselaer Polytechnic Institute** 2973
Crystal growth from vapor phase in zero environment

Period	*Obligations*	
01/11/74-03/31/76	FY76:	TOTAL: $72,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wiedemeier, H.	MSFC/Adams, W. R. MSFC/Boese, A.	19-Phys Sci, NEC

NAS 8-31705 **Rensselaer Polytechnic Institute** 2974
Space processing applications, shuttle payloads requirements specification

Period	*Obligations*	
09/26/75-06/01/76	FY76: $2,159	TOTAL: $2,159
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
MacCrone, R. K.	MSFC/Snyder, R. S.	19-Phys Sci, NEC

NGL 33-018-003 **Rensselaer Polytechnic Institute** 2975
Interdisciplinary materials research including fundamental physics & chemistry of materials, environmental effects, and related problems

Period	*Obligations*	
09/01/70-04/30/79	FY76: $200,000	TOTAL: $4,409,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wiberly, S. E.	LERC/Lad, R. A.	47-Materials Engr

NEW YORK (Continued)

NGL 33-018-007 **Rensselaer Polytechnic Institute** **2976**
Investigation of composition & chemical behavior of atmosphere of Venus

Period	*Obligations*	
06/19/62-08/31/78	FY76: $100,000	TOTAL: $1,387,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Harteck, P.	HQ-SL/Fellows, R. F. HQ-SL/Hipsher, H. F.	31-Atmos Sci

NGL 33-018-091 **Rensselaer Polytechnic Institute** **2977**
Analysis and design of a capsule landing system and surface vehicle control system for Mars exploration

Period	*Obligations*	
06/14/67-05/31/77	FY76:	TOTAL: $815,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Yerazunis, S. W.	HQ-SL/Tarver, P. HQ-SL/Herman, D. H.	49-Engr, NEC

NGR 33-018-148 **Rensselaer Polytechnic Institute** **2978**
Photochemical investigations of the atmosphere of other planets

Period	*Obligations*	
08/27/70-10/31/76	FY76: $53,000	TOTAL: $207,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ferris, J. P.	HQ-SB/Young, R. S.	12-Chemistry

NGR 33-018-152 **Rensselaer Polytechnic Institute** **2979**
Mechanics of high energy brakes

Period	*Obligations*	
06/29/70-08/14/76	FY76: $80,000	TOTAL: $367,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ling, F. F. Peterson, M. B. Ho, T. L.	LERC/Bill, R. C. LERC/Johnson, R. L.	41-Aero Engr

NGR 33-018-188 **Rensselaer Polytechnic Institute** **2980**
Design & analysis of communication subsystem for planetary entry missions

Period	*Obligations*	
04/26/73-09/30/76	FY76: $23,000	TOTAL: $65,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Modestino, J. W.	ARC/Grant, T. L.	45-Elec Engr

NSG 1052 **Rensselaer Polytechnic Institute** **2981**
Utilization of ion implanted filaments as ion sources for in situ calibration of unmanned space vehicles and other applications

Period	*Obligations*	
05/01/74-09/30/76	FY76: $26,000	TOTAL: $62,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
White, F. A.	LARC/Wood, G. M.	19-Phys Sci, NEC

NSG 1188 **Rensselaer Polytechnic Institute** **2982**
Reduced state feedback gain computation

Period	*Obligations*	
06/01/75-11/30/76	FY76:	TOTAL: $47,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kaufman, H.	LARC/Hood, R. V.	41-Aero Engr

NSG 3007 **Rensselaer Polytechnic Institute** **2983**
Relationship between boron fiber properties and its use in composites

Period	*Obligations*	
06/01/74-06/30/77	FY76:	TOTAL: $70,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Diefendorf, R. J.	LERC/Grimes, H. H.	47-Materials Engr

NSG 3057 **Rensselaer Polytechnic Institute** **2984**
Advanced beam probe diagnostic system

Period	*Obligations*	
03/01/75-09/01/76	FY76:	TOTAL: $29,413
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hickok, R. L., Jr.	LERC/Reinmann, J. J. LERC/Seikel, G. R.	13-Physics

NSG 7065 **Rensselaer Polytechnic Institute** **2985**
Structure-function studies on bacillus stearothermophilus

Period	*Obligations*	
06/01/74-05/31/77	FY76: $28,000	TOTAL: $74,512
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wedler, F. C. Boylen, C. W.	HQ-SB/Young, R. S.	51-Biology

NSG 7184 **Rensselaer Polytechnic Institute** **2986**
Data acquisition and path selection decision making for an autonomous roving vehicle

Period	*Obligations*	
11/01/75-12/31/76	FY76: $30,000	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frederick, D. K. Shen, C. N. Razunis, Y. E.	HQ-RE/Pontious, C. E. JPL/Dobrotin, B. M.	19-Phys Sci, NEC

NSG 3072 **Rochester Institute of Technology** **2987**
Development of flexible rotor balancing criteria

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $31,783
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rieger, N. F. Walter, W. W.	LERC/Anderson, W. J. LERC/Fleming, D. P.	46-Mech Engr

NSG 5018 **St. Lawrence University** **2988**
Investigation of relationship between linears and petroleum production in the Williston Basin

Period	*Obligations*	
08/15/74-08/15/75	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Erickson, J. M. Street, J. S.	GSFC/Short, N. M.	32-Geological Sci

NASA'S UNIVERSITY PROGRAM

NEW YORK (Continued)

NAS 8-30251 **State Univ of New York - Albany** **2989**

Data analysis of SO73 gegenschein/zodiacal light experiment

Period	*Obligations*	
10/01/73-01/31/76	FY76: $49,386	TOTAL: $426,829
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weinberg, J. L.	MSFC/Gary, G. A. MSFC/Miller, E. R.	13-Physics

NAS 8-31902 **State Univ of New York - Albany** **2990**

Preliminary study of contaminant particulates around Skylab

Period	*Obligations*	
02/01/76-06/30/76	FY76: $18,343	TOTAL: $18,343
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schuerman, D. W.	MSFC/Weinberg, J. L. MSFC/Clifton, S.	39-Env Sci, NEC

NSG 2080 **State Univ of New York - Albany** **2991**

Stratospheric aerosol as possible sources and sinks of trace gases

Period	*Obligations*	
05/01/75-04/30/76	FY76:	TOTAL: $25,427
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kiang, C. S. Mohnen, V. A.	ARC/Reynolds, R. T. ARC/Pollack, J. B.	31-Atmos Sci

NSG 3095 **State Univ of New York - Albany** **2992**

Fundamentals of radiation tolerance in silicon solar cells

Period	*Obligations*	
01/26/76-01/25/77	FY76: $25,000	TOTAL: $25,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Corbett, J. W.	LERC/Baraona, C. R. LERC/Brandhorst, H. W., Jr.	39-Env Sci, NEC

NSG 7093 **State Univ of New York - Albany** **2993**

Photoelectric studies of the night glow

Period	*Obligations*	
12/23/74-07/30/76	FY76: $37,457	TOTAL: $77,457
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weinberg, J. L.	HQ-SL/Fellows, R. F. HQ-SL/Donn, B. D.	31-Atmos Sci

NSG 7222 **State Univ of New York - Albany** **2994**

Two-dimensional transport and aerosol model

Period	*Obligations*	
02/01/76-01/31/77	FY76: $45,000	TOTAL: $45,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kiang, C. S.	HQ-SU/King, J., Jr. HQ-SU/Reed, E. F.	31-Atmos Sci

NSG 7230 **State Univ of New York - Albany** **2995**

Extinction and the atmospheric aerosol

Period	*Obligations*	
03/01/76-06/30/76	FY76: $14,133	TOTAL: $14,133
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weinberg, J. L. Schuerman, D. W.	HQ-SU/King, J., Jr. HQ-SU/Reed, E. F.	31-Atmos Sci

NSG 8040 **State Univ of New York - Albany** **2996**

Research study of data analysis, Skylab zodiacal light experiment

Period	*Obligations*	
06/28/76-07/01/76	FY76: $18,594	TOTAL: $18,594
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weinberg, J. L.	MSFC/Gary, G. A.	11-Astronomy

NSG 9028 **State Univ of New York - Albany** **2997**

Non-invasive technique for measurement of cardiac output for space shuttle use

Period	*Obligations*	
05/30/75-09/30/76	FY76: $38,675	TOTAL: $81,530
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Farhi, L. E.	JSC/Rummel, J. A.	51-Biology

NAS 8-31292 **State Univ of New York - Buffalo** **2998**

Electrophoresis technical experiment

Period	*Obligations*	
11/15/74-12/31/75	FY76:	TOTAL: $57,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bigazzi, P. E.	MSFC/Allen, R. E. MSFC/Rhodes, P. H.	51-Biology

NAS 8-31434 **State Univ of New York - Buffalo** **2999**

Computer program for fast Karnuhen-Loeve transform algorithm

Period	*Obligations*	
05/02/75-02/01/76	FY76:	TOTAL: $27,498
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jain, A. K.	MSFC/Van Vleck, E. MSFC/Jayroe, R.	21-Mathematics

NGL 33-183-013 **State Univ of New York - Buffalo** **3000**

Lunar sample analysis

Period	*Obligations*	
02/01/73-01/31/77	FY76: $6,718	TOTAL: $78,238
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cadenhead, D. A.	JSC/Harris, J. W.	12-Chemistry

NGR 33-015-002 **State Univ of New York - Buffalo** **3001**

Studies in cellular theory and molecular mechanisms

Period	*Obligations*	
07/30/63-09/30/75	FY76:	TOTAL: $862,237
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Danielli, J. F.	HQ-SB/Young, R. S.	12-Chemistry

NGR 33-015-108 **State Univ of New York - Buffalo** **3002**

Planetary curriculum and related geologic research

Period	*Obligations*	
06/02/70-05/14/77	FY76: $52,450	TOTAL: $183,673
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
King, J. S.	HQ-SL/Dwornik, S. E. HQ-SL/Wahmann, R.	32-Geological Sci

NASA'S UNIVERSITY PROGRAM

NEW YORK (Continued)

NSG 7071 **State Univ of New York - Buffalo** **300**

Experimental and theoretical investigation for the suppression of plasma arc drops in thermionic converters

Period	*Obligations*	
07/01/74-04/15/78	FY76: $104,050	TOTAL: $210,928
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shaw, D. T.	LERC/Morris, J. F.	13-Physics

NAS 1-10493 **State Univ of New York - Stony Brook** **3004**

Participation in the science planning for the Viking 1975 missions in the area of molecular analysis

Period	*Obligations*	
01/18/71-03/31/77	FY76: $29,677	TOTAL: $124,121
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Owens, T.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	39-Env Sci, NEC

NAS 2-8986 **State Univ of New York - Stony Brook** **3005**

Study of cells and embryogenesis in space

Period	*Obligations*	
08/07/75-08/31/76	FY76: $50,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Steward, F. C. Krikorian, A. D.	ARC/Tremor, J. W. ARC/Taketa, S. T.	51-Biology

NCA 2-760601 **State Univ of New York - Stony Brook** **3006**

Laboratory spectroscopy at ultralong path length

Period	*Obligations*	
03/01/76-06/30/77	FY76: $19,500	TOTAL: $19,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lutz, B. L.	ARC/Boese, R. W.	13-Physics

NGL 33-015-082 **State Univ of New York - Stony Brook** **3007**

Study of high energy and relativistic astrophysics

Period	*Obligations*	
10/16/69-09/30/74	FY76:	TOTAL: $189,751
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Owen, T.	GSFC/Chiu, H. Y.	11-Astronomy

NGL 33-015-130 **State Univ of New York - Stony Brook** **3008**

Lunar sample analysis

Period	*Obligations*	
02/11/71-01/31/79	FY76: $94,380	TOTAL: $739,065
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bence, A. E.	JSC/Harris, J. W.	13-Physics

NGL 33-015-174 **State Univ of New York - Stony Brook** **3009**

Lunar sample analysis

Period	*Obligations*	
02/01/73-01/31/77	FY76: $95,500	TOTAL: $332,656
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schaeffer, O. A.	JSC/Harris, J. W.	12-Chemistry

NGR 33-015-139 **State Univ of New York - Stony Brook** **3010**

Quantitative spectroscopic measurements on the principal constituents in planetary atmospheres

Period	*Obligations*	
04/12/71-05/31/78	FY76:	TOTAL: $215,090
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Varanasi, P.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGR 33-015-141 **State Univ of New York - Stony Brook** **3011**

Spectroscopic observations of the planets

Period	*Obligations*	
01/26/71-06/30/77	FY76:	TOTAL: $144,173
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Owen, T.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGR 33-015-160 **State Univ of New York - Stony Brook** **3012**

Thermodynamics and kinetics of reactions in protective coating systems

Period	*Obligations*	
04/12/72-10/01/76	FY76:	TOTAL: $128,482
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Seigle, L. L.	LERC/Levine, S. R.	47-Materials Engr

NGR 33-015-163 **State Univ of New York - Stony Brook** **3013**

Research on atmospheric pollution effects of turbine engine products over range of operating altitudes

Period	*Obligations*	
05/22/72-03/01/76	FY76:	TOTAL: $53,544
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Berlad, A. L.	LERC/Gordon, S.	39-Env Sci, NEC

NGR 33-015-165 **State Univ of New York - Stony Brook** **3014**

Planetary atmospheres research

Period	*Obligations*	
11/01/72-11/30/76	FY76: $69,293	TOTAL: $158,112
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Owen, T.	GSFC/Hansen, J. E. GSFC/Thaddeus, P.	31-Atmos Sci

NGR 33-015-169 **State Univ of New York - Stony Brook** **3015**

Organic molecules in the atmosphere of Jupiter: Investigation of colors in Jovian cloud deck

Period	*Obligations*	
10/16/72-11/30/76	FY76: $25,967	TOTAL: $80,637
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Owen, T.	HQ-SL/Young, R. S.	12-Chemistry

NGR 33-015-180 **State Univ of New York - Stony Brook** **3016**

Cosmic rays in interplanetary space

Period	*Obligations*	
01/07/74-06/30/77	FY76: $33,154	TOTAL: $74,454
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Forman, M. A.	HQ-SA/Sofia, S. HQ-SA/Opp, A. G.	11-Astronomy

NEW YORK (Continued)

NGR 33-015-196 **State Univ of New York - Stony Brook** **3017**
Study of novel techniques for interferometrical controlled ruling of improved large diffraction gratings

Period	Obligations	
01/01/74-06/30/75	FY76:	TOTAL: $45,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Stroke, G. W.	GSFC/Mangus, J. D.	13-Physics

NSG 3051 **State Univ of New York - Stony Brook** **3018**
Combustion of porous solids at reduced gravitational conditions

Period	Obligations	
06/01/75-05/30/77	FY76: $24,857	TOTAL: $44,703
Prin. Invest.	NASA Tech. Officer	CASE Category
Berlad, A. L.	LERC/Cochran, T. H.	43-Chem Engr

NSG 5015 **State Univ of New York - Stony Brook** **3019**
Theoretical studies of the atmospheres of the giant planets

Period	Obligations	
07/01/74-08/31/76	FY76:	TOTAL: $57,026
Prin. Invest.	NASA Tech. Officer	CASE Category
Hogan, J. S.	GSFC/Hansen, J. E.	31-Atmos Sci

NSG 5102 **State Univ of New York - Stony Brook** **3020**
Atmospheric pollution development and applications of regional scale dispersion models

Period	Obligations	
03/01/76-02/28/77	FY76: $60,000	TOTAL: $60,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Hogan, J. S.	GSFC/Stewart, R. W.	31-Atmos Sci

NSG 7003 **State Univ of New York - Stony Brook** **3021**
Research in grating technology and related areas

Period	Obligations	
11/01/73-06/30/76	FY76:	TOTAL: $78,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Stroke, G. W.	HQ-ST/Timothy, A. F.	11-Astronomy

NSG 7036 **State Univ of New York - Stony Brook** **3022**
Lunar rock surface phenomena

Period	Obligations	
02/01/74-11/30/75	FY76:	TOTAL: $18,640
Prin. Invest.	NASA Tech. Officer	CASE Category
Hartung, J. B.	HQ-SM/Stuart-Alexander, D.E.	32-Geological Sci

NSG 7150 **State Univ of New York - Stony Brook** **3023**
A synthesis of lunar mineral data

Period	Obligations	
07/11/75-09/30/76	FY76: $43,096	TOTAL: $43,096
Prin. Invest.	NASA Tech. Officer	CASE Category
Papike, J. J.	HQ-SL/Williams, R. J.	32-Geological Sci

NSG 7225 **State Univ of New York - Stony Brook** **3024**
Argon dating of terrestrial shocked rocks

Period	Obligations	
05/01/76-04/30/77	FY76: $25,916	TOTAL: $25,916
Prin. Invest.	NASA Tech. Officer	CASE Category
Schaeffer, O. A.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 9013 **State Univ of New York - Stony Brook** **3025**
Dating of lunar cratering events and rates of lunar surface processes

Period	Obligations	
07/15/74-01/31/77	FY76: $109,700	TOTAL: $168,749
Prin. Invest.	NASA Tech. Officer	CASE Category
Hartwig, J. B.	JSC/Harris, J. W.	32-Geological Sci

NSG 9044 **State Univ of New York - Stony Brook** **3026**
Petrologic and stratigraphic studies of lunar drill cores and drive tubes

Period	Obligations	
09/01/76-01/31/77	FY76: $28,500	TOTAL: $28,500
Prin. Invest.	NASA Tech. Officer	CASE Category
Papike, J. J.	JSC/Harris, J. W.	13-Physics

NAS 5-22277 **State Univ of New York - Downstate Med Ctr** **3027**
Redox determination of bacteriological presence in urine

Period	Obligations	
11/13/73-11/12/74	FY76:	TOTAL: $4,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Fealey, R. D. Damadian, R.	GSFC/Chen, W. T. GSFC/Friedman, D. S.	52-Clinical Med

NAS 9-11846 **State Univ of New York - Upstate Med Ctr** **3028**
Analyses of urine samples for antidiuretic hormone

Period	Obligations	
06/10/71-09/30/76	FY76: $22,878	TOTAL: $91,878
Prin. Invest.	NASA Tech. Officer	CASE Category
Miller, M.	JSC/Leach, C. S.	59-Life Sci, NEC

NAS 9-12770 **State Univ of New York Col - Geneseo** **3029**
Lunar geology eastern maria data analysis experiment

Period	Obligations	
06/20/72-12/31/75	FY76:	TOTAL: $68,721
Prin. Invest.	NASA Tech. Officer	CASE Category
Young, R. A.	JSC/Hardee, S. N.	32-Geological Sci

NGR 33-219-002 **State Univ of New York Col - Geneseo** **3030**
Comparision of Lyman 2 and HE 1 & 10830 line structures and variations in early type star atmosphere

Period	Obligations	
05/14/73-11/30/76	FY76:	TOTAL: $6,800
Prin. Invest.	NASA Tech. Officer	CASE Category
Meisel, D. D.	HQ-SA/Roman, N. G.	11-Astronomy

NEW YORK (Continued)

NSG 5077 **State Univ of New York College - Purchase** **3031**
Spectral and Monte Carlo predictability studies

Period	*Obligations*	
09/01/75-08/31/76	FY76: $12,458	TOTAL: $12,458
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tenenbaum, J.	GSFC/Halem, M.	31-Atmos Sci

NGR 33-022-157 **Syracuse University** **3032**
Application of strain range partitioning to crack propagation

Period	*Obligations*	
09/01/73-11/30/76	FY76: $37,984	TOTAL: $82,211
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liu, H. W.	LERC/Hirschberg, M. H.	47-Materials Engr

NSG 1194 **Syracuse University** **3033**
Study of the stress sensitivity of the coercive force of micron sized barium ferrite and bismuth manganese particles

Period	*Obligations*	
07/01/75-06/30/77	FY76: $24,958	TOTAL: $49,888
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schroder, K.	LARC/Stermer, R. L.	45-Elec Engr

NGR 33-032-004 **Union College** **3034**
Optically pumped submillimeter waveguide maser amplifiers and oscillators

Period	*Obligations*	
04/15/74-04/14/77	FY76: $24,985	TOTAL: $75,972
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Galantowicz, A.	GSFC/McAvoy, N. GSFC/McElroy, J. H.	13-Physics

NAS 5-20028 **University of Rochester** **3035**
Optical components associated with investigation of solar phenomena in ultraviolet region

Period	*Obligations*	
01/15/74-10/31/76	FY76: $12,150	TOTAL: $25,350
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baumeister, P. W.	GSFC/Osantowski, J. F.	13-Physics

NGR 33-019-002 **University of Rochester** **3036**
Research on automatic remote direction bacteria including modification of detection device for chemical analysis of lunar & planetary surface materials

Period	*Obligations*	
12/19/61-04/30/76	FY76: $36,000	TOTAL: $1,120,675
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hempfling, W. P.	HQ-SB/Young, R. S.	51-Biology

NGR 33-019-127 **University of Rochester** **3037**
50 microns, 100 microns observations of strong sources with a lamellar grating interferometer on the C-141 infrared telescope

Period	*Obligations*	
03/06/73-08/31/76	FY76: $52,000	TOTAL: $132,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pipher, J. L. Duthie, G. J. Savedoff, M. P.	ARC/Cameron, R. M. ARC/Gillespie, C. M., Jr.	11-Astronomy

NSG 1211 **University of Rochester** **3038**
Time course of visual information transfer during aircraft control problems

Period	*Obligations*	
06/16/75-09/01/76	FY76:	TOTAL: $36,632
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brown, J. L. Dick, A. O.	LARC/Gainer, P. A. LARC/Spady, A. A., Jr.	69-Psych, NEC

NSG 5054 **University of Rochester** **3039**
Investigation of the radius and composition of Sirius B from far UV observations

Period	*Obligations*	
01/01/75-06/30/77	FY76: $12,000	TOTAL: $14,124
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Savedoff, M. P.	GSFC/Kupperian, J. E.	11-Astronomy

NCA 2-823501 **Vassar College** **3040**
Visual stimulation studies

Period	*Obligations*	
05/01/75-04/30/76	FY76:	TOTAL: $5,588
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chrisfensen, C.	ARC/Zill, L. P.	51-Biology

NCA 2-823601 **Vassar College** **3041**
Influence of visual stimulation on otolith controlled units

Period	*Obligations*	
09/01/75-06/30/77	FY76: $5,588	TOTAL: $5,588
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Christensen, C.	ARC/Zill, L. P.	59-Life Sci, NEC

NGL 33-023-018 **Yeshiva University** **3042**
Research in space physics

Period	*Obligations*	
06/29/66-08/31/76	FY76:	TOTAL: $652,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cameron, A. G.	GSFC/Hansen, J. E. GSFC/Thaddeus, P.	11-Astronomy

NORTH CAROLINA

NAS 8-29286 **Appalachian State University** **3043**
Statistical studies of atmospheric variables related to Skylab and space shuttle programs

Period	*Obligations*	
10/06/72-01/06/75	FY76:	TOTAL: $20,226
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kitchens, H.	MSFC/Falls, L. W.	21-Mathematics

NASA'S UNIVERSITY PROGRAM
NORTH CAROLINA (Continued)

NGT 34-017-001 **Bennett College** **3044**

Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/74-05/31/77	FY76: $7,000	TOTAL: $21,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sayles, J. H.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	99-Multi-Discip

NSG 1032 **Bennett College** **3045**

Development of a laboratory transportable absorption column applicable to air sampling industrial launch sites for GLC analysis

Period	*Obligations*	
04/15/74-08/31/76	FY76:	TOTAL: $66,785
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Greaux, A. E. Duhart, B. T.	LARC/Cofer, W. R., III	12-Chemistry

NAS 5-22475 **Duke University** **3046**

Direct energy transfer power subsystem modeling and analysis

Period	*Obligations*	
06/20/75-06/20/77	FY76:	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilson, T. G. Owen, H. A., Jr.	GSFC/Rodriquez, G. E.	45-Elec Engr

NGL 34-001-001 **Duke University** **3047**

Research on satellite electrical power conversion systems and circuit protection

Period	*Obligations*	
02/19/65-02/28/79	FY76: $70,000	TOTAL: $956,031
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Simonett, D. S. Estes, J. E.	GSFC/Rodriguez, G. E. GSFC/Pasciutti, E. R.	45-Elec Engr

NGR 34-001-041 **Duke University** **3048**

Research in satellite power conversion system

Period	*Obligations*	
02/01/72-01/31/76	FY76:	TOTAL: $17,226
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
O'Foghludha, F. R.	GSFC/Trombka, J. I.	11-Astronomy

NSG 1121 **Duke University** **3049**

The potential role of the helicopter in transportation

Period	*Obligations*	
11/08/74-12/31/76	FY76: $29,510	TOTAL: $54,105
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dajani, J. S.	LARC/Snyder, W. J. LARC/Tapscott, R. J.	44-Civil Engr

NSG 1267 **Duke University** **3050**

Methodology for classifying software errors

Period	*Obligations*	
01/01/76-06/30/76	FY76: $20,053	TOTAL: $20,053
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gerhart, S. L.	LARC/Migneault, G. E. LARC/Bavuso, S. J.	21-Mathematics

NSG 5020 **Duke University** **3051**

Recognition of electromagnetic signatures for tornado detection

Period	*Obligations*	
08/12/74-08/11/75	FY76:	TOTAL: $7,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wang, P. P.	GSFC/Cote, C. E.	45-Elec Engr

NSG 1179 **Elizabeth City State University** **3052**

Research program on the charge transfer excited states of transition metal complexes

Period	*Obligations*	
06/01/75-05/31/77	FY76: $20,062	TOTAL: $45,055
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chatterjee, K. K.	LARC/Conway, E. J.	12-Chemistry

NGT 34-012-750 **North Carolina A&T State University** **3053**

Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/75-05/30/77	FY76: $14,000	TOTAL: $28,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chandra, S.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	49-Engr, NEC

NSG 1147 **North Carolina A&T State University** **3054**

Investigations of stimulated scattered processes as possible mechanisms in laser induced damage in nonlinear optical materials

Period	*Obligations*	
02/17/75-08/10/76	FY76:	TOTAL: $29,973
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Yu, C.	LARC/Allario, F.	13-Physics

NSG 1296 **North Carolina A&T State University** **3055**

Effect of temperature on composite sandwich structures subjected to low velocity impact

Period	*Obligations*	
05/17/76-05/16/77	FY76: $20,834	TOTAL: $20,834
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sharma, A. V.	LARC/Rhodes, M. D. LARC/Mikulas, M. M., Jr.	47-Materials Engr

NSG 5120 **North Carolina Central University** **3056**

Optically pumped submillimeter waves and applications

Period	*Obligations*	
06/07/76-06/06/77	FY76: $38,559	TOTAL: $38,559
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dutta, J. M. Jones, C. R.	GSFC/McAvoy, N. GSFC/McElroy, J. H.	13-Physics

NAS 6-2617 **North Carolina State Univ. - Raleigh** **3057**

Wind wave current interaction studies

Period	*Obligations*	
02/07/75-12/22/76	FY76: $85,881	TOTAL: $113,154
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hiser, H. W.	WFC/Stanley, H. R. WFC/Huang, N. E.	33-Oceanography

NASA'S UNIVERSITY PROGRAM
NORTH CAROLINA (Continued)

NAS 8-31984 **North Carolina State Univ. - Raleigh** **3058**
Study of satellite sensing
Period *Obligations*
04/29/76-04/28/77 FY76: $19,998 TOTAL: $19,998
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Welby, G. MSFC/Paludan, C. T. 39-Env Sci, NEC
MSFC/Cagle, F. A.

NGL 34-002-017 **North Carolina State Univ. - Raleigh** **3059**
Transverse instabilities of magnetically self-focusing streams in plasmas
Period *Obligations*
12/03/64-02/28/76 FY76: TOTAL: $156,871
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bennett, W. H. HQ-RR/Thom, K. 13-Physics

NGL 34-002-095 **North Carolina State Univ. - Raleigh** **3060**
Acoustic energy effects on sleep and human performance
Period *Obligations*
04/11/69-08/31/76 FY76: $28,326 TOTAL: $355,457
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Levere, T. E. LARC/Mayes, W. H. 69-Psych, NEC

NGR 34-002-108 **North Carolina State Univ. - Raleigh** **3061**
Study of high-temperature materials for solid propellant rocket nozzle applications
Period *Obligations*
06/09/69-04/30/76 FY76: TOTAL: $129,222
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Manning, C. R., Jr. LARC/Hagginbothom, W. K., Jr. 47-Materials Engr
LARC/Buckley, J. D.

NGR 34-002-188 **North Carolina State Univ. - Raleigh** **3062**
Deployable reflector antenna study
Period *Obligations*
10/18/72-06/30/77 FY76: $15,018 TOTAL: $58,026
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Herman, B. M. LARC/Croswell, W. F. 45-Elec Engr
LARC/Bailey, M. C.

NGR 34-002-195 **North Carolina State Univ. - Raleigh** **3063**
Theoretical analysis of current voltage characteristics of solar cells
Period *Obligations*
06/01/73-07/31/77 FY76: $59,500 TOTAL: $112,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hauser, J. R. LERC/Godlewski, M. P. 45-Elec Engr

NSG 1058 **North Carolina State Univ. - Raleigh** **3064**
Analyses of nuclear induced plasmas by means of kinetic theory
Period *Obligations*
07/01/74-06/30/77 FY76: $30,000 TOTAL: $90,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hassan, H. A. LARC/Hohl, F. 13-Physics

NSG 1077 **North Carolina State Univ. - Raleigh** **3065**
Estimating the performance and dynamic response characteristics of an advanced technology light-twin aircraft and comparing it with flight test results
Period *Obligations*
08/15/74-10/31/76 FY76: TOTAL: $76,803
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smetana, F. O. LARC/Crane, H. L. 41-Aero Engr

NSG 1116 **North Carolina State Univ. - Raleigh** **3066**
Theoretical study of heterojunction and graded band gap type solar cells
Period *Obligations*
10/14/74-01/31/77 FY76: $20,500 TOTAL: $41,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hauser, J. R. LARC/Hutchby, J. A. 45-Elec Engr
LARC/Hendricks, H. D.

NSG 1133 **North Carolina State Univ. - Raleigh** **3067**
Wetting phenomena in metals and ceramics
Period *Obligations*
01/15/75-07/14/76 FY76: TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Manning, C. R., Jr. LARC/O'Neal, R. L. 47-Materials Engr
LARC/Kinard, W. H.

NSG 1136 **North Carolina State Univ. - Raleigh** **3068**
Long duration exposure facility experiments for early space shuttle missions
Period *Obligations*
01/15/75-06/14/76 FY76: TOTAL: $9,998
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bailey, J. A. LARC/O'Neal, R. L. 47-Materials Engr
Whitfield, J. K. LARC/Kinard, W. H.

NSG 1202 **North Carolina State Univ. - Raleigh** **3069**
Study of the titanium dioxide-gallium arsenide interface
Period *Obligations*
06/01/75-05/31/77 FY76: $16,134 TOTAL: $31,134
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Littlejohn, M. A. LARC/Miller, W. E. 13-Physics
LARC/Hendricks, H. D.

NSG 1205 **North Carolina State Univ. - Raleigh** **3070**
Research program in aeroacoustics for noise control of general aviation aircraft
Period *Obligations*
07/01/75-06/30/77 FY76: $29,000 TOTAL: $58,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hart, F. D. LARC/Mayes, W. H. 13-Physics
Bailey, J. R. LARC/Stephens, D. G.

NSG 1287 North Carolina State Univ. - Raleigh 3071
ADP techniques for calculating heat transfer rates on shuttle-type configurations using prescribed surface pressures

Period	*Obligations*	
03/01/76-02/28/77	FY76: $18,381	TOTAL: $18,381
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dejarnette, F. R.	LARC/Walberg, G. D. LARC/Jones, J. J.	41-Aero Engr

NASW 2793 Shaw University 3072
Five-day symposium on Aeronautics and Space

Period	*Obligations*	
04/02/75-05/30/75	FY76:	TOTAL: $15,060
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-U/Dixon, J. T.	99-Multi-Discip

NSG 1033 Shaw University 3073
Polyimides systems research

Period	*Obligations*	
04/08/74-08/31/76	FY76: $25,000	TOTAL: $58,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Chatterji, A. K. Panayappan, R. M.	LARC/Bell, V. L., Jr.	12-Chemistry

NAS 8-26601 University of North Carolina - Chapel Hill 3074
Passive particle dosimetry

Period	*Obligations*	
11/17/70-06/30/77	FY76:	TOTAL: $39,792
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Childs, C. B.	MSFC/Parnell, T. A. MSFC/Eby, P. B.	13-Physics

NAS 9-14697 University of North Carolina - Chapel Hill 3075
Role of natriuretic peptides in the regulation of urinary sodium excretion

Period	*Obligations*	
06/23/75-06/23/78	FY76:	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gitelman, H. J.	JSC/Leach, C. S.	59-Life Sci, NEC

NORTH DAKOTA

NGR 35-001-012 North Dakota State University 3076
Quantitation of buried contamination by the use of solvents

Period	*Obligations*	
06/01/73-05/31/75	FY76:	TOTAL: $61,418
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hill, T. W.	HQ-SB/Hall, L. B.	12-Chemistry

OHIO

NGR 36-017-004 Bowling Green State University 3077
Genetic effect of space on cells

Period	*Obligations*	
09/01/73-10/31/76	FY76: $20,503	TOTAL: $85,503
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Oster, I. I.	ARC/Miquel, J. ARC/Philpott, D. E.	51-Biology

NSG 7022 Bowling Green State University 3078
A radially streaming particle model for Seyfert galaxy nuclei and quasistellar objects

Period	*Obligations*	
07/01/74-06/30/77	FY76: $37,083	TOTAL: $52,083
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ptak, R. L. Stoner, R. E.	HQ-SA/Roman, N. G. HQ-SA/Rosendhal, J. D.	11-Astronomy

NAS 8-31802 Case Western Reserve University 3079
Convective analysis of various crystal growth systems

Period	*Obligations*	
03/15/76-03/14/77	FY76: $30,000	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ostrach, S.	MSFC/Schafer, C. F. MSFC/Rathz, T. J.	46-Mech Engr

NAS 8-31907 Case Western Reserve University 3080
Convection in crystal growing

Period	*Obligations*	
03/15/76-03/14/77	FY76: $19,995	TOTAL: $19,995
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ostrach, S.	MSFC/Bannister, T. C. MSFC/Facemire, B. R.	12-Chemistry

NGL 36-003-064 Case Western Reserve University 3081
Basic scientific research in fluid physics

Period	*Obligations*	
06/14/65-05/31/77	FY76:	TOTAL: $1,112,673
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reshotko, E.	LERC/Nichols, L. D.	19-Phys Sci, NEC

NGL 36-003-094 Case Western Reserve University 3082
The effects of deformation on dispersion

Period	*Obligations*	
10/18/66-05/31/77	FY76: $33,000	TOTAL: $254,570
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ebert, L. J.	LERC/Glasgow, T. K.	47-Materials Engr

OHIO (Continued)

NGR 36-027-050 **Case Western Reserve University** **3083**
Catalysts for electrochemical generation of oxygen

Period	*Obligations*	
02/22/72-03/31/77	FY76: $49,597	TOTAL: $214,597
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Yeager, E.	ARC/Quattrone, P. D.	12-Chemistry
O'Grady, W. E.		
Cahan, B. D.		

NGR 36-027-051 **Case Western Reserve University** **3084**
Stress corrosion cracking & hydrogen embrittlement

Period	*Obligations*	
06/02/72-09/30/76	FY76: $6,500	TOTAL: $51,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hehemann, R. H.	LERC/Andrews, C. W.	47-Materials Engr
Truhan, J. J.	LERC/Ashbrook, R. L.	

NGR 36-027-053 **Case Western Reserve University** **3085**
Microelectronic bioinstrumentation systems

Period	*Obligations*	
04/27/72-09/30/76	FY76: $50,000	TOTAL: $233,300
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ko, W. H.	ARC/Fryer, T. B.	59-Life Sci, NEC
Hynecek, J.	ARC/Sandler, H.	

NGR 36-027-064 **Case Western Reserve University** **3086**
Study of effects of layer control on shock wave turbulent boundary layer interactions in supersonics inlets

Period	*Obligations*	
08/01/73-07/31/77	FY76: $60,023	TOTAL: $121,769
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reshotko, E.	LERC/Bishop, A. R.	41-Aero Engr

NGR 36-027-068 **Case Western Reserve University** **3087**
Far infrared maser communications technology

Period	*Obligations*	
05/13/74-11/30/75	FY76:	TOTAL: $75,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pao, Y. H.	GSFC/McAvoy, N.	13-Physics
Claspy, P. C.		

NGT 36-027-011 **Case Western Reserve University** **3088**
Summer program of NASA-ASEE summer faculty fellowships

Period	*Obligations*	
12/16/69-03/31/77	FY76: $162,250	TOTAL: $814,745
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Prahl, J. M.	HQ-P/Carter, C. H.	49-Engr, NEC

NSG 3009 **Case Western Reserve University** **3089**
An x-ray photoelectric spectroscopy study of nickel and nickel-base alloy surface alteration in simulated hot corrosion conditions

Period	*Obligations*	
06/01/74-11/30/76	FY76:	TOTAL: $55,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mateescu, G. D.	LERC/Kohl, F. J.	12-Chemistry

NSG 3027 **Case Western Reserve University** **3090**
Processing studies on non-oxide ceramics

Period	*Obligations*	
09/01/74-08/31/77	FY76:	TOTAL: $46,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mitchell, T. E.	LERC/Probst, H. B.	47-Materials Engr
Ever, H. H.	LERC/Ashbrook, R. L.	

NSG 3040 **Case Western Reserve University** **3091**
Heat transfer characteristics of porous materials

Period	*Obligations*	
10/01/74-09/30/76	FY76: $25,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dybbs, A.	LERC/Fortini, A.	47-Materials Engr

NSG 3053 **Case Western Reserve University** **3092**
Convection phenomena at reduced gravity

Period	*Obligations*	
06/01/75-05/31/77	FY76: $25,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ostrach, S.	LERC/Labus, T. L.	49-Engr, NEC

NSG 3058 **Case Western Reserve University** **3093**
Nacelle boattail flows

Period	*Obligations*	
03/01/75-05/30/77	FY76: $30,785	TOTAL: $60,406
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reshotko, E.	LERC/Bober, L. J.	41-Aero Engr

NSG 3062 **Case Western Reserve University** **3094**
Interactive compressor flow-field calculations

Period	*Obligations*	
02/01/75-01/31/78	FY76:	TOTAL: $55,986
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reshotko, E.	LERC/Sockol, P. M.	41-Aero Engr

NSG 3074 **Case Western Reserve University** **3095**
Applications of high power lasers

Period	*Obligations*	
05/29/75-08/15/77	FY76: $34,515	TOTAL: $34,515
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Angus, J. C.	LERC/Connolley, D. J.	43-Chem Engr
Gallagher, N. C.		
Mann, J. A., Jr.		

NSG 3077 **Case Western Reserve University** **3096**
Roller bearing geometry design

Period	*Obligations*	
08/01/75-07/31/76	FY76: $24,742	TOTAL: $24,742
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Savage, M.	LERC/Brewe, D. E.	46-Mech Engr
	LERC/Scibbe, H. W.	

NSG 3078 **Case Western Reserve University** 3097

Sampling designs for the surveillance of air pollution resources and intensity

Period	Obligations	
08/01/75-01/31/77	FY76: $19,545	TOTAL: $19,545
Prin. Invest.	NASA Tech. Officer	CASE Category
Zacks, S. Kedem, B. Anbar, D.	LERC/Neustadter, H.E.	21-Mathematics

NSG 3085 **Case Western Reserve University** 3098

Demonstration experiment on utilization of buffer memory system for transmission of color video using moderate bandwidth communications satellite channels

Period	Obligations	
10/23/75-10/22/77	FY76: $191,521	TOTAL: $191,521
Prin. Invest.	NASA Tech. Officer	CASE Category
Pao, J. H.	LERC/Nice, A. W.	45-Elec Engr

NSG 3115 **Case Western Reserve University** 3099

Computer graphic techniques for visualizing and interpreting fluid flow models

Period	Obligations	
06/30/76-06/29/79	FY76: $48,000	TOTAL: $48,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Lynch, W. C. Parke, F. R.	LERC/Anderson, B. H.	41-Aero Engr

NSG 7035 **Case Western Reserve University** 3100

Development of a generalized technology for life prediction in the high-temperature creep and fatigue range

Period	Obligations	
05/01/74-04/30/77	FY76: $40,018	TOTAL: $107,234
Prin. Invest.	NASA Tech. Officer	CASE Category
Manson, S. S.	LERC/Hirschberg, M. H. LERC/Halford, G. R.	47-Materials Engr

S-27376B **Case Western Reserve University** 3101

Laser video link display

Period	Obligations	
04/26/76-09/10/76	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Pao, Y. H.	GSFC/McAvoy, N.	45-Elec Engr

NGR 36-033-002 **Central State University - Ohio** 3102

Determination of water quality in lake Erie via satellite scanning spectroscopy

Period	Obligations	
02/28/73-09/30/75	FY76:	TOTAL: $39,809
Prin. Invest.	NASA Tech. Officer	CASE Category
Rubin, D.	LERC/Raquet, C. A.	51-Biology

NGR 36-033-003 **Central State University - Ohio** 3103

Effects of some selected atmospheric pollutants on animal population surrounding the Cleveland area

Period	Obligations	
04/25/73-09/30/76	FY76: $21,584	TOTAL: $62,366
Prin. Invest.	NASA Tech. Officer	CASE Category
Craft, T. J., Sr. Johnson, M. A., Jr.	LERC/Fordyce, J. S. LERC/King, R. B.	51-Biology

NSG 2074 **Central State University - Ohio** 3104

Circadian toxicity of cerium in rat liver

Period	Obligations	
03/01/75-05/31/77	FY76: $20,000	TOTAL: $39,990
Prin. Invest.	NASA Tech. Officer	CASE Category
Nduaguba, J. C.	ARC/Winget, C. M.	51-Biology

NAS 3-18547 **Cleveland State University** 3105

Synthesis and optimization of spur gear tooth profile shapes for high load capacity

Period	Obligations	
06/04/74-09/23/77	FY76:	TOTAL: $59,980
Prin. Invest.	NASA Tech. Officer	CASE Category
Kasuba, R.	LERC/Townsend, D. P.	46-Mech Engr

NSG 3026 **Hiram College** 3106

Residual stress and crystallite size change as a result of rubbing in polycrystalline metals

Period	Obligations	
07/01/74-12/31/75	FY76:	TOTAL: $18,500
Prin. Invest.	NASA Tech. Officer	CASE Category
Wheeler, D. R.	LERC/Buckley, D. H. LERC/Spalvins, T.	47-Materials Engr

NSG 2013 **Kent State University** 3107

Transport of trace contaminants through porous media

Period	Obligations	
03/15/74-09/15/77	FY76: $36,700	TOTAL: $64,200
Prin. Invest.	NASA Tech. Officer	CASE Category
Madey, R.	ARC/Quattrone, P. D.	12-Chemistry

NAS 9-14538 **Miami University** 3108

Research on a possible mechanism of o-g sickness

Period	Obligations	
02/15/75-04/01/77	FY76: $24,277	TOTAL: $54,053
Prin. Invest.	NASA Tech. Officer	CASE Category
Parker, D. E.	JSC/Homick, J. L. JSC/Reschke, M. F.	59-Life Sci, NEC

NAS 1-14406 **Ohio State University** 3109

General aviation low-speed airfoil design and development service

Period	Obligations	
06/30/76-06/29/79	FY76: $100,000	TOTAL: $100,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Gregorek, G. M. Burggraf, O. R.	LARC/Barnwell, R. W. LARC/Pierpont, P. K.	41-Aero Engr

OHIO (Continued)

NAS 2-8954 **Ohio State University** **3110**
A tactual display aid for primary flight training

Period	Obligations	
07/01/75-08/30/76	FY76: $52,265	TOTAL: $52,265
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gilson, R. D. Fenton, R. E.	ARC/Lauber, J. K.	69-Psych, NEC

NAS 5-20521 **Ohio State University** **3111**
Space shuttle experiment

Period	Obligations	
05/23/74-10/31/75	FY76:	TOTAL: $46,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Founty, R. A.	GSFC/Hirschmann, E.	39-Env Sci, NEC

NAS 5-21983 **Ohio State University** **3112**
ATS-F millimeter wave experiment

Period	Obligations	
01/31/74-01/31/76	FY76:	TOTAL: $254,590
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Levis, C. A. Hodge, D. B.	GSFC/Hirschmann, E.	31-Atmos Sci

NAS 5-22575 **Ohio State University** **3113**
Communications link characterization experiment

Period	Obligations	
09/02/75-01/02/77	FY76: $100,000	TOTAL: $100,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hodge, D. B.	GSFC/Hirschmann, E.	45-Elec Engr

NAS 5-23380 **Ohio State University** **3114**
Ice and climate study/Antarctica

Period	Obligations	
03/31/76-04/01/77	FY76: $14,700	TOTAL: $14,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rayner, J. N.	GSFC/Zwally, H. J. GSFC/Greaves, J. R.	39-Env Sci, NEC

NAS 6-2484 **Ohio State University** **3115**
Investigation to improve existing gravity models, using GEOS altimeter data

Period	Obligations	
04/15/74-04/14/77	FY76: $9,500	TOTAL: $69,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rapp, R. H.	WFC/Stanley, H. R. WFC/Rossi, L. C.	32-Geological Sci

NAS 8-31195 **Ohio State University** **3116**
Close grid geodynamic satellite measurement system definition

Period	Obligations	
01/01/75-11/22/75	FY76: $12,572	TOTAL: $68,012
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mueller, I. I.	MSFC/Costes, N. C. MSFC/Page, M. A.	19-Phys Sci, NEC

NASW 2435 **Ohio State University** **3117**
GEOP-geodesy-solid-earth and ocean physics research conferences

Period	Obligations	
07/26/72-12/31/74	FY76:	TOTAL: $28,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mueller, I. I.	HQ-ES/Murphy, J. P.	32-Geological Sci

NGL 36-008-051 **Ohio State University** **3118**
Stress corrosion cracking of titanium alloys

Period	Obligations	
06/23/66-06/01/79	FY76:	TOTAL: $208,696
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Beck, F. H.	LERC/Gray, H. R.	47-Materials Engr

NGL 36-008-093 **Ohio State University** **3119**
Data analysis for the national geodetic satellite program

Period	Obligations	
08/23/67-06/30/76	FY76:	TOTAL: $555,518
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mueller, I. I.	HQ-ES/Murphy, J. P.	19-Phys Sci, NEC

NGL 36-008-138 **Ohio State University** **3120**
Avionics antenna research space communication

Period	Obligations	
12/23/69-11/14/76	FY76: $74,998	TOTAL: $295,758
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Burnside, W. D. Richmond, J. H.	LARC/Gilreath, M. C. LARC/Croswell, W. F.	45-Elec Engr

NGR 36-008-080 **Ohio State University** **3121**
Millimeter-wavelength propagation studies

Period	Obligations	
03/03/67-06/16/74	FY76:	TOTAL: $582,430
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ksienski, A. A. Hodge, D. B.	GSFC/Hirschmann, E.	45-Elec Engr

NGR 36-008-161 **Ohio State University** **3122**
The direct combination of satellite and gravity data

Period	Obligations	
05/01/71-04/30/77	FY76: $23,037	TOTAL: $177,999
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rapp, R. H.	GSFC/Marsh, J. G.	32-Geological Sci

NGR 36-008-204 **Ohio State University** **3123**
Activity related to earth and ocean physics application program

Period	Obligations	
10/01/73-09/30/77	FY76: $114,000	TOTAL: $152,506
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Mueller, I. I.	HQ-ES/Murphy, J. P.	32-Geological Sci

OHIO (Continued)

NGR 36-008-205 **Ohio State University** **3124**

Studies of heat source driven natural convection

Period	*Obligations*	
08/01/73-06/30/76	FY76:	TOTAL: $12,914
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kulacki, F. A.	ARC/Cassen, P. M. ARC/Reynolds, R. T.	19-Phys Sci, NEC

NGR 36-008-211 **Ohio State University** **3125**

Ultrastructures of rats reared under hypergravity compared with those reared under normal gravity

Period	*Obligations*	
09/01/73-10/31/76	FY76: $26,250	TOTAL: $73,437
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lim, D.	ARC/Mehler, W. R.	59-Life Sci, NEC

NGT 36-008-007 **Ohio State University** **3126**

Training of post graduate medical students in field of aerospace medicine

Period	*Obligations*	
04/02/64-08/31/77	FY76: $73,660	TOTAL: $604,486
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ellingson, H. V.	HQ-P/Carter, C. H. HQ-SB/Winter, D. L.	52-Clinical Med

NSG 1184 **Ohio State University** **3127**

Investigation of the aerodynamic characteristics of a new general aviation airfoil in flight

Period	*Obligations*	
05/01/75-03/31/77	FY76: $15,000	TOTAL: $84,106
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gregorek, G. M. Weislogel, G. S.	LARC/Hall, A. W.	41-Aero Engr

NSG 1212 **Ohio State University** **3128**

Identification of scientific programs to utilize the space environment

Period	*Obligations*	
06/16/75-09/15/76	FY76:	TOTAL: $20,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nerem, R. M. Kulacki, F. A.	LARC/Dibattista, J. D.	99-Multi-Discip

NSG 2162 **Ohio State University** **3129**

Electronic search technology applicable to the SETI problem

Period	*Obligations*	
06/01/76-05/30/77	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dixon, R. S. Kraus, J. D.	ARC/Billingham, J. ARC/Wolfe, J. H.	45-Elec Engr

NSG 3005 **Ohio State University** **3130**

Remote sensing of lake ice thickness

Period	*Obligations*	
04/01/74-04/01/76	FY76: $10,000	TOTAL: $60,125
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Peake, W. H.	LERC/Cooper, D. W. LERC/Heighway, J. E.	45-Elec Engr

NAS 1-14124 **Ohio University** **3131**

Design, production and flight testing of omega receiver base units

Period	*Obligations*	
09/05/75-09/04/76	FY76: $49,516	TOTAL: $49,516
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McFarland, R. H. Burhans, R. Lilley, R. W.	LARC/Reid, H. J., Jr. LARC/Mace, W. D.	45-Elec Engr

NAS 5-20885 **Ohio University** **3132**

Investigate the properties structure and dynamics of earth materials

Period	*Obligations*	
11/11/74-12/03/76	FY76: $20,631	TOTAL: $37,631
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tanuka, T.	GSFC/Bonavito, N.	13-Physics

NGR 36-009-017 **Ohio University** **3133**

Air transportation problems with emphasis on general aviation avionics

Period	*Obligations*	
02/26/71-08/31/78	FY76: $70,000	TOTAL: $352,125
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McFarland, R. H. Burhans, R.	LARC/Reid, H. J., Jr. LARC/Mace, W. D.	45-Elec Engr

NSG 2061 **University of Akron** **3134**

Study of friction and abrasion of aircraft tire tread materials

Period	*Obligations*	
04/01/75-09/30/76	FY76:	TOTAL: $29,748
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gent, A. N. Henry, R. L.	ARC/Golub, M. A. ARC/Parker, J. A.	13-Physics

NAS 2-7850 **University of Cincinnati** **3135**

Theoretical and experimental study of aerodynamics

Period	*Obligations*	
10/01/73-10/01/76	FY76:	TOTAL: $94,990
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tabakoff, W.	ARC/Burke, J. A.	41-Aero Engr

NGR 36-004-061 **University of Cincinnati** **3136**

Research on methods of estimating stability and control derivatives of aircraft with flexible structures

Period	*Obligations*	
04/21/72-08/31/77	FY76:	TOTAL: $83,464
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wells, W. R.	LARC/Suit, W. T. LARC/Queijo, M. J.	41-Aero Engr

NGR 36-004-064 **University of Cincinnati** **3137**

Two-dimensional flow losses of a turbine with boundary layer injection

Period	*Obligations*	
06/13/72-09/30/76	FY76: $2,091	TOTAL: $46,851
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tabakoff, W.	LERC/Prust, H. W., Jr.	41-Aero Engr

OHIO (Continued)

NGR 36-004-068 University of Cincinnati 3138

Analytical earth satellite theory to be used for definitive orbit determination and geophysical studies

Period	Obligations	
08/15/73-03/31/75	FY76:	TOTAL: $17,456
Prin. Invest.	NASA Tech. Officer	CASE Category
Danielli, J. F.	GSFC/Lancaster, E. R.	11-Astronomy

NGR 36-004-075 University of Cincinnati 3139

Jupiter space missions support, orbit computation programs and new astrographic plate constants

Period	Obligations	
11/01/73-05/31/76	FY76: $1	TOTAL: $31,109
Prin. Invest.	NASA Tech. Officer	CASE Category
Herget, P.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NSG 1185 University of Cincinnati 3140

Thermal analysis of composite panels, three-dimensional reinforced composites

Period	Obligations	
05/01/75-09/30/76	FY76: $31,280	TOTAL: $48,635
Prin. Invest.	NASA Tech. Officer	CASE Category
Nayfeh, A. H.	LARC/Mikulas, M. M., Jr. LARC/Bush, H. G.	49-Engr, NEC

NSG 1208 University of Cincinnati 3141

The separated supersonic turbulent boundary layer over a wavy wall

Period	Obligations	
07/01/75-06/30/77	FY76:	TOTAL: $22,896
Prin. Invest.	NASA Tech. Officer	CASE Category
Polak, A. Werle, M. J.	LARC/Dunavant, J. C.	41-Aero Engr

NSG 3022 University of Cincinnati 3142

Investigation of a new family of semiconductor diodes based upon bulk effects of deep impurities

Period	Obligations	
07/01/74-09/30/78	FY76:	TOTAL: $36,900
Prin. Invest.	NASA Tech. Officer	CASE Category
Henderso[illegible] T.	LERC/Sundberg, G. R.	45-Elec Engr

NSG 3024 University of Cincinnati 3143

Research into the use of silane pyrolytic deposition methods for SiO2 growth in the construction of stable high energy density capacitors

Period	Obligations	
07/01/74-10/01/78	FY76: $31,933	TOTAL: $55,033
Prin. Invest.	NASA Tech. Officer	CASE Category
Nevin, J. H. Henderson, H. T.	LERC/Grier, N. T. LERC/Myers, I. T.	45-Elec Engr

NSG 3045 University of Cincinnati 3144

A study of parameters affecting emmissions from turbine engines

Period	Obligations	
04/02/75-09/30/77	FY76: $30,000	TOTAL: $63,546
Prin. Invest.	NASA Tech. Officer	CASE Category
Kauffman, C. W.	LERC/Jones, R. E.	41-Aero Engr

NSG 3066 University of Cincinnati 3145

Study of the fluid mechanics of a radial turbine scroll

Period	Obligations	
07/01/75-06/30/78	FY76:	TOTAL: $45,378
Prin. Invest.	NASA Tech. Officer	CASE Category
Tabakoff, W.	LERC/Davison, H. W.	41-Aero Engr

NSG 3091 University of Cincinnati 3146

Study of suitable isomers for gamma ray lasers

Period	Obligations	
12/15/75-01/15/77	FY76: $14,000	TOTAL: $14,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Jha, S. Boulchland, P.	LERC/Blue, J. W. LERC/Leonard, R. F.	13-Physics

NAS 3-19699 University of Dayton 3147

ATS user experiments history

Period	Obligations	
05/15/75-05/14/77	FY76:	TOTAL: $46,600
Prin. Invest.	NASA Tech. Officer	CASE Category
Engler, N. A.	LERC/Hein, G. F.	73-History

NAS 3-20365 University of Dayton 3148

Space broadcast communications technology value assessment methodology study

Period	Obligations	
06/24/76-03/31/77	FY76: $95,000	TOTAL: $95,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Martino, J.	LERC/Stevenson, S. M. LERC/Sivo, J. N.	39-Env Sci, NEC

NAS 6-2456 University of Dayton 3149

Atmospheric phenomena associated with falling spheres

Period	Obligations	
03/25/74-10/15/76	FY76: $22,497	TOTAL: $84,462
Prin. Invest.	NASA Tech. Officer	CASE Category
Chupp, E. L.	WFC/Duke, J. R. WFC/Schmidlin, F. J.	31-Atmos Sci

NAS 8-31294 University of Dayton 3150

Examination of requirements and methods for reporting atmospheric information

Period	Obligations	
01/16/75-10/15/76	FY76: $24,857	TOTAL: $70,496
Prin. Invest.	NASA Tech. Officer	CASE Category
Leurs, J. K.	MSFC/Camp, D. W. MSFC/Cliff, W. C.	41-Aero Engr

OHIO (Continued)

NAS 3-17826 **University of Toledo** **3151**
Benefit-cost methodology study with example application
Period *Obligations*
05/31/74-01/31/75 FY76: TOTAL: $64,850
Prin. Invest *NASA Tech. Officer* *CASE Category*
Leininger, G. G. LERC/Ramler, J. R. 49-Engr, NEC

NAS 8-31681 **University of Toledo** **3152**
Cosmic ice and cathrate hydrate system as related to cometary physics
Period *Obligations*
10/07/75-08/06/76 FY76: $5,250 TOTAL: $5,250
Prin. Invest *NASA Tech. Officer* *CASE Category*
Delsemme, A. H. MSFC/Hall, A. J., Jr. 13-Physics
MSFC/Kroes, R. L.

NGR 36-010-024 **University of Toledo** **3153**
Adaptive system optimization for integrated air-breathing engine systems
Period *Obligations*
09/01/71-01/01/76 FY76: TOTAL: $54,074
Prin. Invest *NASA Tech. Officer* *CASE Category*
Leininger, G. G. LERC/Willoh, R. G. 49-Engr, NEC

NGR 36-010-031 **University of Toledo** **3154**
Study of magnetic ap variable stars; the a Persei cluster
Period *Obligations*
05/01/74-05/31/75 FY76: TOTAL: $12,245
Prin. Invest *NASA Tech. Officer* *CASE Category*
Molnar, M. R. GSFC/Kupperian, J. E. 11-Astronomy

NSG 3063 **University of Toledo** **3155**
Multivarible control theory with application to airbreathing propulsion systems
Period *Obligations*
06/01/75-12/31/76 FY76: TOTAL: $25,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Leininger, G. G. LERC/Lehtinen, B. 45-Elec Engr

NSG 3084 **University of Toledo** **3156**
Multi-variable control and sensor evaluation for integrated air breathing propulsion systems
Period *Obligations*
01/01/76-12/31/79 FY76: $52,790 TOTAL: $52,790
Prin. Invest *NASA Tech. Officer* *CASE Category*
Leininger, G. G. LERC/Lehtinen, B. 45-Elec Engr

NSG 3099 **University of Toledo** **3157**
Energy transfer mechanism in a laser-sustained flowing-gas plasma
Period *Obligations*
03/15/76-03/14/77 FY76: $18,604 TOTAL: $18,604
Prin. Invest *NASA Tech. Officer* *CASE Category*
Rush, W. F. LERC/Connolley, D. J. 13-Physics
LERC/Cohen, S. M.

NSG 5006 **University of Toledo** **3158**
Investigation of an ap variable star
Period *Obligations*
05/01/74-08/01/75 FY76: TOTAL: $1,673
Prin. Invest *NASA Tech. Officer* *CASE Category*
Molnar, M. R. GSFC/Kupperian, J. E. 11-Astronomy

NSG 7041 **University of Toledo** **3159**
Measurement of the ultraviolet surface brightness of reflection nebulae with the dutch national satellite
Period *Obligations*
12/15/74-03/31/78 FY76: TOTAL: $9,126
Prin. Invest *NASA Tech. Officer* *CASE Category*
Witt, A. N. HQ-SA/Rosendhal, J. D. 11-Astronomy
HQ-SA/Roman, N. G.

NSG 7138 **University of Toledo** **3160**
Satellite ultraviolet data analysis program
Period *Obligations*
05/01/75-04/30/77 FY76: $9,916 TOTAL: $19,839
Prin. Invest *NASA Tech. Officer* *CASE Category*
Molnar, M. R. HQ-SA/Roman, N. G. 11-Astronomy
HQ-SA/Rosendhal, J. D.

W-14168 **University of Toledo** **3161**
The proceedings of International Astronautical Union Colloquium
Period *Obligations*
09/01/76-08/31/77 FY76: $4,723 TOTAL: $4,723
Prin. Invest *NASA Tech. Officer* *CASE Category*
Delsemme, A. H. HQ-SL/Fellows, R. F. 19-Phys Sci, NEC

NSG 3067 **Wilberforce University** **3162**
Synthesis of specialized organic compounds
Period *Obligations*
05/01/75-10/31/76 FY76: TOTAL: $20,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Stickney, P. B. LERC/Hsu, L. C. 12-Chemistry
Aguilera, P.

NAS 2-8578 **Wright State University** **3163**
Evaluation of an antivertiginous drug in man
Period *Obligations*
09/30/74-06/30/76 FY76: $33,986 TOTAL: $77,650
Prin. Invest *NASA Tech. Officer* *CASE Category*
Beljan, J. R. ARC/Winget, C. M. 53-Other Medical

NSG 2034 **Wright State University** **3164**
Medical applications of space-related research
Period *Obligations*
07/01/74-10/01/76 FY76: $14,876 TOTAL: $31,896
Prin. Invest *NASA Tech. Officer* *CASE Category*
Beljan, J. R. ARC/Young, D. R. 53-Other Medical

OHIO (Continued)

NSG 1199 **Youngstown State University** 3165
Digital flight compensation for descending, constant velocity spiral paths

Period	*Obligations*	
06/15/75-06/14/76	FY76:	TOTAL: $24,516
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Foulkes, R. H., Jr.	LARC/Hueschen, R. M. LARC/Walsh, T. M.	49-Engr, NEC

OKLAHOMA

NAS 2-7273 **Oklahoma State University** 3166
Operation of ARC tour & visitor program for FY 73

Period	*Obligations*	
10/26/72-10/30/76	FY76: $92,500	TOTAL: $211,667
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wiggins, K. E.	ARC/Miller, S. A. ARC/King, L. D.	99-Multi-Discip

NASW 1964 **Oklahoma State University** 3167
Space science education project

Period	*Obligations*	
09/30/69-10/31/75	FY76: $1,500	TOTAL: $4,851,664
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wiggins, K. E.	HQ-FE/Collin, E. E. HQ-FE/Rich, W. B.	99-Multi-Discip

NASW 2512 **Southeastern Oklahoma State College** 3168
Continuation of the technology use studies special dissemination experiment

Period	*Obligations*	
06/04/73-05/31/74	FY76:	TOTAL: $54,998
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gold, H.	HQ-KT/Holley, H. L.	99-Multi-Discip

NASW 2629 **Southeastern Oklahoma State College** 3169
Operation of the technology use studies center

Period	*Obligations*	
05/29/74-12/31/75	FY76:	TOTAL: $95,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-KT/Holley, H. L.	99-Multi-Discip

NASW 2881 **Southeastern Oklahoma State College** 3170
Operation of the technology use studies center

Period	*Obligations*	
01/01/76-12/31/76	FY76: $73,000	TOTAL: $73,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gold, C. H.	HQ-KT/Bivins, R. G. HQ-KT/Voris, R. M.	99-Multi-Discip

NGT 37-004-010 **Southeastern Oklahoma State College** 3171
Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/74-05/31/76	FY76:	TOTAL: $28,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Robinson, J. L.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	99-Multi-Discip

NSG 982 **Southeastern Oklahoma State College** 3172
Analysis of thermophilic microorganisms & sterilization

Period	*Obligations*	
05/23/74-10/01/76	FY76:	TOTAL: $26,009
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Robinson, J. L. Taylor, C. E.	KSC/Bostwick, L. G.	51-Biology

NAS 8-31333 **University of Oklahoma - Norman** 3173
Study of the nature of atmospheric variability represented by data obtained on AVE experiment

Period	*Obligations*	
02/27/75-01/31/77	FY76: $10,000	TOTAL: $29,995
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Inman, R. L.	MSFC/Turner, R. E. MSFC/Vaughan, W. W.	31-Atmos Sci

NAS 8-31377 **University of Oklahoma - Norman** 3174
Integrating upper and lower atmospheric wind profiles and statistics

Period	*Obligations*	
03/17/75-03/16/77	FY76:	TOTAL: $24,995
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Inman, R. L.	MSFC/Camp, D. W. MSFC/Fichtl, G. H.	31-Atmos Sci

NGT 37-003-760 **University of Oklahoma - Norman** 3175
Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/76-05/31/77	FY76: $10,500	TOTAL: $10,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thomas, G.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	49-Engr, NEC

NSG 1183 **University of Oklahoma - Norman** 3176
Piezoresistive solid state pressure sensor

Period	*Obligations*	
06/01/75-01/31/77	FY76: $5,982	TOTAL: $44,077
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kahng, S. K.	LARC/Gross, C. LARC/Ocheltree, S. L.	45-Elec Engr

OREGON

NCA 2-585501 **Oregon Graduate Center** 3177
Investigation into the sex differences of the pituitary-adrenal system and adaptation to stress

Period	Obligations	
09/01/74-11/30/75	FY76:	TOTAL: $3,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Swanson, L. W. Sakellaris, P. C.	ARC/Zill, L. P.	51-Biology

NCA 2-585601 **Oregon Graduate Center** 3178
Mechanisms mediating pituitary-adrenal responsiveness

Period	Obligations	
12/01/75-11/30/76	FY76: $5,000	TOTAL: $5,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Swanson, L. W.	ARC/Zill, L. P.	51-Biology

NSG 3054 **Oregon Graduate Center** 3179
Fabrication and surface characterization of composite refractory compounds suitable for thermionic conveters

Period	Obligations	
12/01/74-03/31/77	FY76: $60,000	TOTAL: $119,320
Prin. Invest.	NASA Tech. Officer	CASE Category
Swanson, L. W. McNeely, D. R.	LERC/Morris, J. F.	47-Materials Engr

NAS 5-22319 **Oregon State University** 3180
Interrelationship of particles dynamics and color

Period	Obligations	
04/11/75-10/11/76	FY76:	TOTAL: $23,548
Prin. Invest.	NASA Tech. Officer	CASE Category
Zuneveld, R. V.	GSFC/Mueller, J. L.	33-Oceanography

NAS 9-14860 **Oregon State University** 3181
Assessment of the impact of increased solar ultraviolet radiation upon marine ecosystems

Period	Obligations	
10/08/75-10/07/76	FY76: $60,000	TOTAL: $60,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Van Dyke, H.	JSC/Nachtwey, D. S.	51-Biology

NGL 38-002-020 **Oregon State University** 3182
Study of elemental abundances in meteorite and terrestrial matter

Period	Obligations	
08/26/66-02/28/78	FY76:	TOTAL: $413,622
Prin. Invest.	NASA Tech. Officer	CASE Category
Schmitt, R. A.	HQ-SM/Bryson, R. P. HQ-SM/Roberson, F. I.	32-Geological Sci

NGL 38-002-039 **Oregon State University** 3183
Lunar sample analysis

Period	Obligations	
01/19/71-01/31/79	FY76: $28,000	TOTAL: $376,250
Prin. Invest.	NASA Tech. Officer	CASE Category
Schmitt, R. A.	JSC/Harris, J. W.	13-Physics

NGL 38-002-053 **Oregon State University** 3184
Development and operation of an environmental remote sensing applications laboratory

Period	Obligations	
03/16/72-03/31/79	FY76: $100,000	TOTAL: $575,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Schrumpf, B. J.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NSG 7178 **Oregon State University** 3185
Examination of the suggested modes of origin of channels found on the Moon and Mars

Period	Obligations	
01/01/76-12/31/76	FY76: $15,360	TOTAL: $15,360
Prin. Invest.	NASA Tech. Officer	CASE Category
Komar, P. D. Dolan, R.	HQ-SL/Dwornik, S. E. HQ-SL/Wahmann, R.	32-Geological Sci

NAS 9-9690 **University of Oregon - Eugene** 3186
Operation and maintenance of NASA/MSC geophysical branch mobile laboratory

Period	Obligations	
06/24/69-06/30/76	FY76:	TOTAL: $60,763
Prin. Invest.	NASA Tech. Officer	CASE Category
Blank, H. R.	JSC/Teegarden, D. L., Jr.	32-Geological Sci

NCA 2-587601 **University of Oregon - Eugene** 3187
Polarization in the infrared

Period	Obligations	
04/01/76-06/15/76	FY76: $2,000	TOTAL: $2,000
Prin. Invest.	NASA Tech. Officer	CASE Category
Kemp, J.	ARC/Caroff, L. J.	13-Physics

NGL 38-003-022 **University of Oregon - Eugene** 3188
Lunar sample analysis

Period	Obligations	
02/09/71-01/31/79	FY76: $81,700	TOTAL: $437,315
Prin. Invest.	NASA Tech. Officer	CASE Category
Weill, D. F.	JSC/Harris, J. W.	13-Physics

NGR 38-003-020 **University of Oregon - Eugene** 3189
Inspection of petrologically significant physical and chemical properties of the silicate melts

Period	Obligations	
06/01/70-02/28/79	FY76: $266,049	TOTAL: $524,424
Prin. Invest.	NASA Tech. Officer	CASE Category
Weill, D. F.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

OREGON (Continued)

NGR 38-003-034 University of Oregon - Eugene 3190
Measurements of far infrared upper atmosphere emission spectrum

Period	Obligations	
02/27/73-09/01/76	FY76: $29,158	TOTAL: $131,896
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Donnelly, R. J. Holt, I. Radostitc, J.	ARC/Cameron, R. M. ARC/Gillespie, C. M., Jr.	11-Astronomy

NGR 38-003-036 University of Oregon - Eugene 3191
Transition probability in multiply ionized atoms

Period	Obligations	
07/03/72-08/30/76	FY76: $37,500	TOTAL: $92,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Crasemann, B.	ARC/Whiting, E. E.	13-Physics

NAS 8-30887 University of Oregon-Health Sci. Ctr. 3192
Electrokinetic characterization of aldehyde fixed red blood cells, kidney cells, lymphocytes and chamber wall coatings

Period	Obligations	
07/01/74-03/13/76	FY76:	TOTAL: $32,873
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Knox, R. J.	MSFC/Allen, R. E. MSFC/Howell, E. S.	51-Biology

NAS 8-31386 University of Oregon-Health Sci. Ctr. 3193
Definition of performance specifications for automated analytical electrophoresis facility

Period	Obligations	
04/07/75-02/28/76	FY76:	TOTAL: $35,213
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brooks, D. E. Seaman, G. V.	MSFC/Harwell, R. J. MSFC/Allen, R. E.	59-Life Sci, NEC

NAS 8-31899 University of Oregon-Health Sci. Ctr. 3194
Candidate space processing techniques for biomaterials other than preparation electrophoresis

Period	Obligations	
04/09/76-10/08/76	FY76: $19,979	TOTAL: $19,979
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brooks, D. E.	MSFC/Ives, R. E. MSFC/Allen, R. E.	51-Biology

PENNSYLVANIA

NAS 9-14640 Bryn Mawr College 3195
ASTP/Cosmos fundulus embryo development experiments

Period	Obligations	
04/01/75-04/01/77	FY76:	TOTAL: $15,764
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Oppe[illegible]imer, J. M.	JSC/Hoffman, R. A.	51-Biology

NSG 9005 Bryn Mawr College 3196
Petrologic investigation of feldspathic rocks from the lunar highland

Period	Obligations	
06/15/74-02/28/77	FY76:	TOTAL: $7,426
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Crawford, M. L.	JSC/Harris, J. W.	13-Physics

NAS 3-18929 Carnegie - Mellon University 3197
Evaluation of the mechancial properties of electro-slag refined iron alloys

Period	Obligations	
02/03/75-03/02/76	FY76:	TOTAL: $82,517
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bhat, G. K.	LERC/Witzke, W.	47-Materials Engr

NGR 39-087-003 Carnegie - Mellon University 3198
Investigation of the effects of microstructure on fracture toughness of high-strength alloys

Period	Obligations	
05/01/68-01/31/77	FY76: $24,944	TOTAL: $224,351
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Low, J. R., Jr.	LERC/Klopp, W. D. LERC/Brown, W. F., Jr.	47-Materials Engr

NGR 39-087-021 Carnegie - Mellon University 3199
Studies of heterodyne solar cell performance

Period	Obligations	
03/26/70-04/30/77	FY76: $38,545	TOTAL: $255,816
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Feucht, D. L. Milnes, A. G.	LARC/Walker, G. H. LARC/Conway, E. J.	13-Physics

NGR 39-087-047 Carnegie - Mellon University 3200
Investigation of the effects of microstructure on the fracture toughness of high strength titanium alloys

Period	Obligations	
10/09/72-11/30/76	FY76:	TOTAL: $75,123
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Low, J. R., Jr. Van Stone, R. H.	LERC/Klopp, W. D. LERC/Brown, W. F., Jr.	47-Materials Engr

NGR 39-087-053 Carnegie - Mellon University 3201
Special finite elements for cracks in elasto-plastic media

Period	Obligations	
09/01/73-10/01/76	FY76: $42,000	TOTAL: $108,436
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Swedlow, J. L. Osias, J. R.	LERC/Srawley, J. E. LERC/Gross, B.	46-Mech Engr

NSG 3023 Carnegie - Mellon University 3202
Steady and dynamic performance of liquid face seals

Period	Obligations	
07/01/74-06/28/77	FY76:	TOTAL: $45,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hughes, W. F.	LERC/Ludwig, L. P. LERC/Zuk, J.	46-Mech Engr

NASA'S UNIVERSITY PROGRAM
PENNSYLVANIA (Continued)

NAS 1-11871 **Drexel University** **3203**
Investigation of ESSA VII radiation data for use in long term earth balance experiment
Period *Obligations*
07/25/72-05/14/76 FY76: $5,000 TOTAL: $101,865
Prin. Invest. *NASA Tech. Officer* *CASE Category*
House, F. B. LARC/Sweet, G. E. 31-Atmos Sci
Kohri, W. J.

NAS 1-14393 **Drexel University** **3204**
Science support for the limb infrared monitor of the stratosphere experiment
Period *Obligations*
04/01/76-10/31/78 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
House, F. B. LARC/Russell, J. M., III 31-Atmos Sci
LARC/James, R. L., Jr.

NAS 5-22946 **Drexel University** **3205**
Science support for the earth radiation budget experiment on Nimbus G
Period *Obligations*
01/12/76-01/11/79 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
House, F. B. GSFC/Nelson, E. D. 13-Physics

NAS 8-31235 **Drexel University** **3206**
Atmospheric variability experiment study using a numerical weather prediction model
Period *Obligations*
02/03/75-02/01/77 FY76: $35,000 TOTAL: $59,900
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kreitzberg, C. W. MSFC/Hill, K. 31-Atmos Sci
MSFC/Vaughan, W. W.

NSG 1240 **Drexel University** **3207**
Thermoluminescence of ozonated rubrene study
Period *Obligations*
10/01/75-07/31/76 FY76: $24,275 TOTAL: $24,275
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bandy, A. R. LARC/Rogowski, R. S.
39-Env Sci, NEC

NSG 3090 **Drexel University** **3208**
Theory for nonlinear reaction-diffusion phenomena with application to free radical recombination
Period *Obligations*
10/01/75-09/30/76 FY76: $27,000 TOTAL: $27,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rosen, G. H. LERC/Zeleznik, F. J. 21-Mathematics

NSG 6007 **Drexel University** **3209**
Electrochemical concentration cell ozone sonde performance tests
Period *Obligations*
05/01/76-09/30/76 FY76: $10,100 TOTAL: $10,100
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brandy, A. R. WFC/Holland, A. C. 31-Atmos Sci

NAS 5-20865 **Hahnemann Medical College & Hospital** **3210**
Detection of bacteria in urine by an ATP luciferase procedure
Period *Obligations*
10/18/74-04/18/77 FY76: $34,691 TOTAL: $143,494
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gutekunst, R. R. GSFC/Picciolo, G. L. 59-Life Sci, NEC

NAS 8-28654 **Lehigh University** **3211**
Electrophoresis flight experiment
Period *Obligations*
04/27/72-11/14/75 FY76: TOTAL: $150,266
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vander Hoff, J. W. MSFC/Bond, J. B. 47-Materials Engr
Micale, F. J. MSFC/Allen, R. E.

NAS 8-31706 **Lehigh University** **3212**
Space processing applications, shuttle payloads requirements specification study
Period *Obligations*
09/26/75-03/25/76 FY76: $4,895 TOTAL: $4,895
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vander Hoff, J. W. MSFC/Taylor, K. R. 19-Phys Sci, NEC
MSFC/Poe, J. W.

NAS 8-31707 **Lehigh University** **3213**
Space processing applications, shuttle payloads requirements specification study
Period *Obligations*
09/26/75-03/25/76 FY76: $4,895 TOTAL: $4,895
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Micale, E. J. MSFC/Taylor, K. K. 19-Phys Sci, NEC
Vanderhoff, J. W. MSFC/Poe, J. W.

NCA 2-380501 **Lehigh University** **3214**
Development of stress corrosion cracking test methods
Period *Obligations*
11/01/74-10/31/76 FY76: TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wei, R. P. ARC/Zill, L. P. 47-Materials Engr

NCA 8-123 **Lehigh University** **3215**
Research on production of monodisperse polymer colloids
Period *Obligations*
04/14/76-04/13/77 FY76: $7,000 TOTAL: $7,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Poehlein, G. W. MSFC/Cliff, W. C. 12-Chemistry
Vand, J. W.

NGL 39-007-007 **Lehigh University** **3216**
Investigation of solidification structure & eutectic alloys including consideration of properties control
Period *Obligations*
02/17/65-07/01/78 FY76: TOTAL: $417,268
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kraft, R. W. LERC/Ashbrook, R. L.
47-Materials Engr
Hertzberg, R. W.
Notis, M. R.

NGR 39-007-011 **Lehigh University** 3217
Investigation of fatigue-crack propagation in thin plates and shells
Period *Obligations*
11/30/64-06/30/77 FY76: $30,400 TOTAL: $367,845
Prin Invest *NASA Tech Officer* *CASE Category*
Erdogan, F. LARC/Illg, W. 21-Mathematics
LARC/Fichter, W. B.

NGR 39-007-043 **Lehigh University** 3218
Shock and thermal history of unusual iron meteorites
Period *Obligations*
05/24/71-03/31/78 FY76: $57,510 TOTAL: $145,875
Prin Invest *NASA Tech Officer* *CASE Category*
Goldstein, J. I. HQ-SM/Stuart-Alexander, D. E.
32-Geological Sci
HQ-SM/Roberson, F. I.

NGR 39-007-056 **Lehigh University** 3219
Lunar sample analysis
Period *Obligations*
01/12/71-01/31/79 FY76: $143,500 TOTAL: $342,485
Prin Invest *NASA Tech Officer* *CASE Category*
Goldstein, J. I. JSC/Harris, J. W. 12-Chemistry

NGR 39-007-061 **Lehigh University** 3220
Investigation of generation of X-rays in close binary stars
Period *Obligations*
03/10/73-06/30/77 FY76: TOTAL: $28,965
Prin Invest *NASA Tech Officer* *CASE Category*
McCluskey, G. E., Jr JSC/Kondo, Y. 11-Astronomy

NGR 39-007-064 **Lehigh University** 3221
Lunar sample analysis
Period *Obligations*
06/07/71-01/31/77 FY76: $39,100 TOTAL: $282,630
Prin Invest *NASA Tech Officer* *CASE Category*
Sclar, C. B. JSC/Harris, J. W. 13-Physics

NSG 117 **Lehigh University** 3222
Fracture problems in composite materials
Period *Obligations*
05/16/75-09/01/76 FY76: $22,920 TOTAL: $31,360
Prin Invest *NASA Tech Officer* *CASE Category*
Arin, K. LARC/Poe,, C. C., Jr. 47-Materials Engr
LARC/Roderick, G. L.

NSG 4005 **Lehigh University** 3223
Aircraft model prototypes which have specified handling-quality time histories
Period *Obligations*
01/20/75-01/19/76 FY76: TOTAL: $9,915
Prin Invest *NASA Tech Officer* *CASE Category*
Johnson, S. H. DFRC/Deets, D. A 41-Aero Engr

NSG 4010 **Lehigh University** 3224
The use of nonlinear dynamic simulation program in aircraft control system design
Period *Obligations*
06/01/76-06/01/77 FY76: $1,050 TOTAL: $1,050
Prin Invest *NASA Tech Officer* *CASE Category*
Johnson, S. H. DFRC/Deets, D. A. 41-Aero Engr
Schuetz, R. L.

NGT 39-108-750 **Lincoln University** 3225
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/75-05/31/77 FY76: $7,000 TOTAL: $14,000
Prin Invest *NASA Tech Officer* *CASE Category*
Williams, W., Jr. HQ-P/Pohly, J. G. 49-Engr, NEC
HQ-U/Jenkins, H. G.

NSG 5008 **Lincoln University** 3226
Application of Medical Information Management System (MIMS)
Period *Obligations*
08/01/74-08/31/76 FY76: $42,580 TOTAL: $73,580
Prin Invest *NASA Tech Officer* *CASE Category*
Frankowsky, J. W. GSFC/Alterescu, S. 52-Clinical Med
GSFC/Freidman, D. S.

NAS 3-17855 **Pennsylvania State University** 3227
Compressor or fan rotor wake characteristic
Period *Obligations*
06/28/73-06/27/74 FY76: TOTAL: $53,971
Prin Invest *NASA Tech Officer* *CASE Category*
Lakshminarayana, B. LERC/Heidmann, M. F. 41-Aero Engr
LERC/Geider, T. F.

NAS 5-22304 **Pennsylvania State University** 3228
Ultilization of ERTS data for the detection and monitoring of saline seeps in Montana
Period *Obligations*
04/15/75-06/30/76 FY76: $22,850 TOTAL: $30,844
Prin Invest *NASA Tech Officer* *CASE Category*
McMurtry, G. J. GSFC/Schnetzler, C. C.
32-Geological Sci
Applegate, D. GSFC/Cressy, P. J.

NAS 5-22822 **Pennsylvania State University** 3229
Study of nature and subsurface characters of lineaments in Pennsylvania
Period *Obligations*
01/13/76-01/12/77 FY76: $35,031 TOTAL: $35,031
Prin Invest *NASA Tech Officer* *CASE Category*
Gold, D. P. GSFC/Podwysocki, M. H.
32-Geological Sci
Alexander, S. S.
Allenby, R. J.

PENNSYLVANIA (Continued)

NAS 5-23133 **Pennsylvania State University** **3230**

Interpretation of ERTS data

Period	Obligations	
06/29/72-04/30/75	FY76:	TOTAL: $228,631

Prin. Invest.	NASA Tech. Officer	CASE Category
McMurtry, G. J.	GSFC/Szajna, E. F.	39-Env Sci, NEC

NAS 6-2602 **Pennsylvania State University** **3231**

Development of a synoptic ionization measurement system

Period	Obligations	
11/01/74-10/31/76	FY76: $1,295	TOTAL: $72,724

Prin. Invest.	NASA Tech. Officer	CASE Category
Hale, L. C.	WFC/Duke, J. R. WFC/Schmidlin, F. J.	19-Phys Sci, NEC

NAS 6-2726 **Pennsylvania State University** **3232**

Stratosphere and mesosphere structure and circulation studies

Period	Obligations	
03/04/76-03/03/77	FY76: $24,943	TOTAL: $24,943

Prin. Invest.	NASA Tech. Officer	CASE Category
Olivero, J.	WFC/Duke, J. R.	31-Atmos Sci

NAS 8-21140 **Pennsylvania State University** **3233**

Investigation of turbulent wind field below 500 feet altitude at the Easter Test Range.

Period	Obligations	
06/02/67-04/09/75	FY76:	TOTAL: $145,823

Prin. Invest.	NASA Tech. Officer	CASE Category
Blackadar, A. K.	MSFC/Fichtl, G. H.	31-Atmos Sci

NAS 8-27334 **Pennsylvania State University** **3234**

Structure of turbulence in severe atmospheric conditions

Period	Obligations	
05/01/71-03/31/75	FY76:	TOTAL: $49,768

Prin. Invest.	NASA Tech. Officer	CASE Category
Long, S. R.	MSFC/Fichtl, G. H.	31-Atmos Sci

NGL 39-009-001 **Pennsylvania State University** **3235**

Static and dynamic tension and cavitation inception in liquids

Period	Obligations	
00/00/00-06/30/75	FY76:	TOTAL: $416,895

Prin. Invest.	NASA Tech. Officer	CASE Category
Holl, J. W.	LERC/Britsch, W. R.	41-Aero Engr

NGL 39-009-002 **Pennsylvania State University** **3236**

Study of ionospheric electron content & upper ionosphere ionic processes by means of satellite radio transmissions

Period	Obligations	
11/01/60-09/30/75	FY76:	TOTAL: $668,245

Prin. Invest.	NASA Tech. Officer	CASE Category
Ross, W. J.	HQ-ST/Schmerling, E. R.	13-Physics

NGL 39-009-003 **Pennsylvania State University** **3237**

Research on electron densities in upper ionosphere, including studies of rocket & separating capsule experimental techniques

Period	Obligations	
03/01/61-10/31/78	FY76: $100,000	TOTAL: $1,876,661

Prin. Invest.	NASA Tech. Officer	CASE Category
Nisbet, J. S.	HQ-ST/Schmerling, E. R. HQ-ST/Cauffman, D. P.	13-Physics

NGL 39-009-007 **Pennsylvania State University** **3238**

Investigation & analysis of flow phenomena of secondary motions in axial flow inducers

Period	Obligations	
12/15/63-02/28/77	FY76:	TOTAL: $279,750

Prin. Invest.	NASA Tech. Officer	CASE Category
Lakshminarayana, B	LERC/Britsch, W. R.	41-Aero Engr

NGL 39-009-010 **Pennsylvania State University** **3239**

Research to establish criteria for recognition of ancient meteorite impact craters whose characteristic surface forms have been obliterated by erosion

Period	Obligations	
08/08/63-12/31/75	FY76:	TOTAL: $169,563

Prin. Invest.	NASA Tech. Officer	CASE Category
Gold, D. P.	HQ-SM/Bryson, R. P. HQ-SM/Allenby, R. J.	32-Geological Sci

NGL 39-009-032 **Pennsylvania State University** **3240**

Study and evaluation of the constant-momentum mass spectrometer for ion analysis in the D and E regions of the ionosphere

Period	Obligations	
05/28/65-11/30/77	FY76:	TOTAL: $642,932

Prin. Invest.	NASA Tech. Officer	CASE Category
Kendall, B. R.	HQ-ST/Schmerling, E. R. HQ-SA/Logan, W.	13-Physics

NGL 39-009-172 **Pennsylvania State University** **3241**

Investigation of characteristics of a propeller operating at static conditions

Period	Obligations	
04/17/70-03/31/77	FY76:	TOTAL: $165,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Eisenhuth, J. J.	LARC/Heyson, H. H.	41-Aero Engr

NGR 39-009-034 **Pennsylvania State University** **3242**

A study of low-cycle fatigue under multiaxial in-phase and out-of-phase strain cycling

Period	Obligations	
06/26/68-12/01/76	FY76: $26,000	TOTAL: $168,654

Prin. Invest.	NASA Tech. Officer	CASE Category
Zamrik, S. Y.	LERC/Hirschberg, M. H. LERC/Halford, G. R.	47-Materials Engr

NGR 39-009-077 **Pennsylvania State University** **3243**
Investigation of near critical and supercritical burning of fuel droplets

Period	*Obligations*	
08/17/66-01/01/78	FY76: $26,030	TOTAL: $310,185
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Faeth, G. M.	LERC/Priem, R. J.	42-Astro Engr

NGR 39-009-180 **Pennsylvania State University** **3244**
Detection of microorganisms in their natural habitat

Period	*Obligations*	
06/12/70-08/31/76	FY76: $37,700	TOTAL: $201,841
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Casida, L. E., Jr.	HQ-SB/Young, R. S.	51-Biology

NGR 39-009-218 **Pennsylvania State University** **3245**
Study of mesospheric ionization in winter

Period	*Obligations*	
10/11/71-09/30/75	FY76:	TOTAL: $159,740
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hale, L. C.	HQ-ST/Schmerling, E. R. HQ-SA/Logan, W.	13-Physics

NGR 39-009-270 **Pennsylvania State University** **3246**
Study in jet noise

Period	*Obligations*	
06/25/73-06/29/77	FY76:	TOTAL: $45,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Arndt, R. E.	LERC/Stone, J. R.	41-Aero Engr

NGR 39-009-275 **Pennsylvania State University** **3247**
Investigation of unsteady pressure distribution on blades of an axial flow fan

Period	*Obligations*	
09/01/73-08/31/76	FY76:	TOTAL: $45,082
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Henderson, R. E.	LERC/Dittmar, J. H. LERC/Feiler, C. E.	46-Mech Engr

NGT 39-009-141 **Pennsylvania State University** **3248**
Training of graduate students in acoustics related to aeronautical & space technology

Period	*Obligations*	
05/31/69-08/31/74	FY76:	TOTAL: $133,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Reethof, G.	HQ-P/Carter, C. H.	99-Multi-Discip

NSG 1141 **Pennsylvania State University** **3249**
Polyphosphazenes as ultraviolet resistant polymers

Period	*Obligations*	
02/01/75-01/31/77	FY76: $26,000	TOTAL: $50,012
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Allcock, H. R.	LARC/Slemp, W. S. LARC/Johnston, N. J.	12-Chemistry

NSG 1280 **Pennsylvania State University** **3250**
Analyses of atmospheric structures related to clear-air turbulence

Period	*Obligations*	
02/15/76-08/14/76	FY76: $6,486	TOTAL: $6,486
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cahir, J. J.	LARC/Davis, R. E. LARC/Murrow, H. N.	31-Atmos Sci

NSG 1308 **Pennsylvania State University** **3251**
A proposed study of propellers for general aviation aircraft

Period	*Obligations*	
07/01/76-06/30/77	FY76: $49,872	TOTAL: $49,872
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McCormick, B. W.	LARC/Fisher, B. D. LARC/Hall, A. W.	41-Aero Engr

NSG 2122 **Pennsylvania State University** **3252**
Subfornical organ and salt/water balance

Period	*Obligations*	
01/01/76-12/31/76	FY76: $18,313	TOTAL: $18,313
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Severs, W. B.	ARC/Keil, L. C. ARC/Danellis, J. V.	53-Other Medical

NSG 3012 **Pennsylvania State University** **3253**
Compressor or fan rotor wake characteristics

Period	*Obligations*	
06/28/74-10/27/77	FY76:	TOTAL: $107,677
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lakshminarayana, B.	LERC/Heidmann, M. F.	41-Aero Engr

NSG 3016 **Pennsylvania State University** **3254**
Microstructural parameters and the impact resistance of ceramic turbine materials

Period	*Obligations*	
07/01/74-07/31/77	FY76:	TOTAL: $70,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bradt, R. C.	LERC/Sanders, W. A.	47-Materials Engr

NSG 3031 **Pennsylvania State University** **3255**
The unsteady response of an axial flow fan to inlet distortions

Period	*Obligations*	
09/01/74-08/31/77	FY76:	TOTAL: $56,641
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Henderson, R. E.	LERC/Sanger, N. L.	41-Aero Engr

NSG 3032 **Pennsylvania State University** **3256**
Blade end wall flows in compressors

Period	*Obligations*	
09/01/74-08/31/77	FY76:	TOTAL: $50,801
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lakshminarayana, B.	LERC/Sockol, P. M.	41-Aero Engr

NSG 3097 **Pennsylvania State University** **3257**
Surface charge kinetics near metal-dielectric interfaces exposed to kilovolt electron flux

Period	Obligations	
03/01/76-02/28/77	FY76: $22,185	TOTAL: $22,185
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Robinson, J. W.	LERC/Stevens, N. J. LERC/Purvis, C. K.	49-Engr, NEC

NSG 6004 **Pennsylvania State University** **3258**
Studies of mesospheric ionization

Period	Obligations	
10/01/75-09/30/76	FY76: $40,000	TOTAL: $40,000
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Hale, L. C.	WFC/Ballance, C. W., Jr. WFC/Gray, J. W.	19-Phys Sci, NEC

NSG 7078 **Pennsylvania State University** **3259**
Technical problems related to orbital capture of passive objects

Period	Obligations	
07/01/74-12/01/76	FY76:	TOTAL: $70,807
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Kaplan, M.	HQ-MT/Cramblitt, D.	42-Astro Engr

NSG 7120 **Pennsylvania State University** **3260**
Physicochemical basis for evaluating lunar petrogenesis

Period	Obligations	
02/01/75-01/31/77	FY76: $29,874	TOTAL: $49,860
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Muan, A.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 7193 **Pennsylvania State University** **3261**
Temporal and spatial stress distribution in the lunar interior and related phenomena

Period	Obligations	
03/01/76-02/28/77	FY76: $35,416	TOTAL: $35,416
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Alexander, S. S.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NAS 9-14979 **Temple University** **3262**
Ultraviolet radiation-induced skin cancer in experimental animals

Period	Obligations	
04/26/76-04/26/77	FY76: $83,493	TOTAL: $83,493
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Urback, F.	JSC/Nachtwey, D. S.	51-Biology

NAS 2-7730 **University of Pennsylvania** **3263**
Biosatellite II experiments P-1017 & 1096

Period	Obligations	
07/24/73-06/24/76	FY76:	TOTAL: $6,039
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Brown, A. H. Dahl, O.	ARC/Zill, L. P.	51-Biology

NAS 5-23479 **University of Pennsylvania** **3264**
Study of large adaptive arrays for space terminology applications

Period	Obligations	
04/27/76-04/27/77	FY76: $70,000	TOTAL: $70,000
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Berkowitz, R. S. Steinberg, B. D.	GSFC/Durrani, S. H.	45-Elec Engr

NAS 8-31702 **University of Pennsylvania** **3265**
Space processing applications shuttle payloads requirement specification study

Period	Obligations	
09/26/75-04/02/76	FY76: $5,000	TOTAL: $5,000
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Zemel, J. N.	MSFC/Taylor, K. R. MSFC/Poe, J. W.	19-Phys Sci, NEC

NGR 39-010-149 **University of Pennsylvania** **3266**
Plant morphogenesis under conditions of hypo- and hypergravia

Period	Obligations	
09/01/73-09/01/76	FY76: $82,245	TOTAL: $221,432
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Brown, A. H. Dahl, A. O.	ARC/Zill, L. P.	51-Biology

NSG 5064 **University of Pennsylvania** **3267**
Research in large adaptive antenna arrays

Period	Obligations	
05/01/75-02/29/76	FY76:	TOTAL: $27,000
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Berkowitz, R. S. Steinberg, B. D.	GSFC/Durrani, S. H.	45-Elec Engr

NSG 7031 **University of Pennsylvania** **3268**
Equilibria study of pseudo-brookite type minerals

Period	Obligations	
01/29/74-07/31/74	FY76:	TOTAL: $2,725
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Friel, J. J.	HQ-SM/Kosofsky, L. J. HQ-SM/Roberson, F. I.	32-Geological Sci

NSG 7119 **University of Pennsylvania** **3269**
Microprobe and oxygen fugacity study of armalcolite

Period	Obligations	
11/01/74-02/28/76	FY76: $35,233	TOTAL: $43,488
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Friel, J. J.	HQ-SM/Kosofsky, L. J. HQ-SM/Roberson, F. I.	32-Geological Sci

NSG 9011 **University of Pennsylvania** **3270**
Regulation of the internal oxygen and acid-base environment

Period	Obligations	
08/01/74-12/01/76	FY76:	TOTAL: $80,000
Prin. Invest	*NASA Tech. Officer*	*CASE Category*
Lambertson, C. J.	JSC/Horrigan, D. J.	51-Biology

NAS 5-22892 **University of Pittsburgh** 3271
Laser plasma laser system study

Period	*Obligations*	
02/26/76-02/26/79	FY76: $32,878	TOTAL: $32,878
Prin Invest	*NASA Tech Officer*	*CASE Category*
Falk, J.	GSFC/Kostiuk, T.	43-Chem Engr

NAS 8-31703 **University of Pittsburgh** 3272
Space processing applications, shuttle payloads requirements specifications study

Period	*Obligations*	
09/26/75-06/01/76	FY76: $4,976	TOTAL: $4,976
Prin Invest	*NASA Tech Officer*	*CASE Category*
Cassidy, W. A.	MSFC/Taylor, K. R. MSFC/Poe, J. W.	19-Phys Sci, NEC

NAS 9-13803 **University of Pittsburgh** 3273
Ultraviolet absorption experiment

Period	*Obligations*	
12/21/73-06/30/76	FY76: $28,037	TOTAL: $224,537
Prin Invest	*NASA Tech Officer*	*CASE Category*
Donahue, T. M.	JSC/Eichelman, W. F.	13-Physics

NASW 2425 **University of Pittsburgh** 3274
Operation of regional dissemination center at Pittsburgh University

Period	*Obligations*	
04/12/73-08/31/74	FY76:	TOTAL: $370,000
Prin Invest	*NASA Tech Officer*	*CASE Category*
Holley, E.	HQ-KT/Holley, H. L.	99-Multi-Discip

NASW 2674 **University of Pittsburgh** 3275
Operation of regional dissemination center

Period	*Obligations*	
12/23/74-08/31/75	FY76: $10,500	TOTAL: $214,169
Prin Invest	*NASA Tech Officer*	*CASE Category*
Unavailable	HQ-KT/Holley, H. L.	99-Multi-Discip

NASW 2838 **University of Pittsburgh** 3276
Operation of an industrial applications center

Period	*Obligations*	
11/14/75-12/31/76	FY76: $265,186	TOTAL: $265,186
Prin Invest	*NASA Tech Officer*	*CASE Category*
Unavailable	HQ-KT/Bivins, R. G.	99-Multi-Discip

NGL 39-011-013 **University of Pittsburgh** 3277
Investigation of airglow excitation mechanisms using atomic beam techniques

Period	*Obligations*	
04/26/65-01/31/79	FY76: $45,000	TOTAL: $626,734
Prin Invest	*NASA Tech Officer*	*CASE Category*
Fite, W. L.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 39-011-030 **University of Pittsburgh** 3278
*Studies of excitation and collision deactivation of measurable A3 state of nitrogen in the aurora and day airglow

Period	*Obligations*	
05/07/65-04/30/79	FY76: $2,334	TOTAL: $794,686
Prin Invest	*NASA Tech Officer*	*CASE Category*
Zipf, E. C., Jr.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 39-011-035 **University of Pittsburgh** 3279
New formulas for collision amplitudes and related quantities

Period	*Obligations*	
02/15/69-09/30/76	FY76:	TOTAL: $88,000
Prin Invest	*NASA Tech Officer*	*CASE Category*
Gerjuoy, E.	GSFC/Temkin, A.	13-Physics

NGL 39-011-085 **University of Pittsburgh** 3280
Studies relating to surfaces of moon & planets

Period	*Obligations*	
03/17/69-03/31/77	FY76: $4,071	TOTAL: $293,078
Prin Invest	*NASA Tech Officer*	*CASE Category*
Hapke, B. W. Cassidy, W. A.	HQ-SL/Williams, R. J.	32-Geological Sci

NGL 39-011-160 **University of Pittsburgh** 3281
Lunar sample analysis

Period	*Obligations*	
02/01/73-01/31/77	FY76:	TOTAL: $79,995
Prin Invest	*NASA Tech Officer*	*CASE Category*
Fuller, M.	JSC/Harris, J. W.	13-Physics

NGR 39-011-113 **University of Pittsburgh** 3282
Helium geocorona rocket experiment

Period	*Obligations*	
04/14/70-09/30/75	FY76:	TOTAL: $875,000
Prin Invest	*NASA Tech Officer*	*CASE Category*
Zipf, E. C., Jr.	HQ-SA/Dubin, M. HQ-SA/Ott, E. J.	31-Atmos Sci

NGR 39-011-137 **University of Pittsburgh** 3283
Dissociative recombination coefficients for planetary ionospheric ions

Period	*Obligations*	
07/28/71-05/31/77	FY76: $28,910	TOTAL: $144,263
Prin Invest	*NASA Tech Officer*	*CASE Category*
Biondi, M. A.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGR 39-011-161 **University of Pittsburgh** 3284
Laboratory studies of kinetics of tropospheric and stratospheric aircraft pollutant reactions using atomic and molecular resonance fluorescence detection

Period	*Obligations*	
06/03/73-12/31/76	FY76: $40,000	TOTAL: $160,000
Prin Invest	*NASA Tech Officer*	*CASE Category*
Kaufman, F. Anderson, J. G.	LERC/Baker, C. E.	12-Chemistry

NGR 39-011-164 **University of Pittsburgh** **3285**
Chemically vapor deposited tantalum tungsten alloys
Period *Obligations*
06/15/73-12/18/75 FY76: TOTAL: $64,399
Prin. Invest *NASA Tech. Officer* *CASE Category*
Meier, G. H. LERC/Stephens, J. R. 47-Materials Engr

NSG 2116 **University of Pittsburgh** **3286**
Feasibility of an instrument for the detection of the perturbative effects of planetary systems
Period *Obligations*
01/01/76-12/30/77 FY76: $19,269 TOTAL: $19,269
Prin. Invest *NASA Tech. Officer* *CASE Category*
Gatewood, G. D. ARC/Billingham, J. 11-Astronomy

NSG 2117 **University of Pittsburgh** **3287**
Survey nearby stars for the perturbative effects of extrasolar planetary systems
Period *Obligations*
01/01/76-12/31/76 FY76: $27,644 TOTAL: $27,644
Prin. Invest *NASA Tech. Officer* *CASE Category*
Gatewood, G. D. ARC/Black, D. 11-Astronomy
ARC/Billingham, J.

NSG 3002 **University of Pittsburgh** **3288**
Dissolved chloride and ammonium ions miniature electrodes for in situ water quality
Period *Obligations*
02/15/74-03/30/77 FY76: $24,924 TOTAL: $84,924
Prin. Invest *NASA Tech. Officer* *CASE Category*
Liu, C. C. LERC/Fordyce, J. S. 12-Chemistry
LERC/Leibecki, H. F.

NSG 3010 **University of Pittsburgh** **3289**
Soluble reactants and products in secondary battery system
Period *Obligations*
05/01/74-07/31/75 FY76: TOTAL: $20,000
Prin. Invest *NASA Tech. Officer* *CASE Category*
Liv, C. C. LERC/O'Donnell, P. M. 12-Chemistry
LERC/Gahn, R.

NSG 6011 **University of Pittsburgh** **3290**
Studies of the physics and chemistry of the terrestrial atmosphere
Period *Obligations*
10/01/75-09/30/76 FY76: $147,986 TOTAL: $147,986
Prin. Invest *NASA Tech. Officer* *CASE Category*
Zipf, E. C., Jr. WFC/Ballance, C. W., Jr.
19-Phys Sci, NEC
WFC/Gray, J. W.

NSG 7147 **University of Pittsburgh** **3291**
Photometric analyses of Mariner 10 images of Venus and Mercury
Period *Obligations*
06/23/75-08/31/76 FY76: $25,487 TOTAL: $32,040
Prin. Invest *NASA Tech. Officer* *CASE Category*
Hapke, B. W. HQ-SL/Dwornik, S. E. 11-Astronomy

NSG 7203 **University of Pittsburgh** **3292**
Measurement of reflectivities of rock-forming minerals and glasses in the vacuum ultraviolet
Period *Obligations*
03/01/76-02/28/77 FY76: $56,979 TOTAL: $56,979
Prin. Invest *NASA Tech. Officer* *CASE Category*
Hapke, B. W. HQ-SL/Williams, R. J. 32-Geological Sci
Cohen, A. J. HQ-SL/Flinn, E. A.
Rtlow, P. A.

RHODE ISLAND

NAS 1-9680 **Brown University** **3293**
Participation in the science planning for the Viking 1975 missions in the area of imaging
Period *Obligations*
03/25/70-03/31/77 FY76: $69,195 TOTAL: $486,502
Prin. Invest *NASA Tech. Officer* *CASE Category*
Mutch, T. A. LARC/Williams, T. S., Jr.
99-Multi-Discip
LARC/Glenny, W. R.

NASW 2827 **Brown University** **3294**
Lunar science in the university geologic curriculum
Period *Obligations*
02/01/75-01/31/76 FY76: TOTAL: $19,997
Prin. Invest *NASA Tech. Officer* *CASE Category*
Head, J. W., III HQ-SM/Kosofsky, L. J.
32-Geological Sci
Mutch, T. A. HQ-SM/Roberson, F. I.

NGR 40-002-088 **Brown University** **3295**
Analysis of Martian geologic features of earth analogs
Period *Obligations*
10/20/69-10/31/77 FY76: $70,969 TOTAL: $228,757
Prin. Invest *NASA Tech. Officer* *CASE Category*
Mutch, T. A. HQ-SL/Dwornik, S. E. 32-Geological Sci

NGR 40-002-093 **Brown University** **3296**
Investigation of methods for improvement of efficiency of photovoltaic cells
Period *Obligations*
02/12/70-12/31/76 FY76: $25,000 TOTAL: $132,300
Prin. Invest *NASA Tech. Officer* *CASE Category*
Loferski, J. J. LARC/Walker, G. H. 13-Physics
Roessler, B. LARC/Conway, E. J.

NGR 40-002-116 **Brown University** **3297**
Lunar basins processes and structure
Period *Obligations*
02/20/73-01/31/79 FY76: $195,490 TOTAL: $321,340
Prin. Invest *NASA Tech. Officer* *CASE Category*
Head, J. W., Jr. HQ-SL/Williams, R. J. 32-Geological Sci
Mutch, T. A. HQ-SL/Flinn, E. A.

RHODE ISLAND (Continued)

NGR 40-002-123 **Brown University** 3298

Lunar sample analysis

Period	*Obligations*	
05/01/73-01/31/77	FY76: $32,800	TOTAL: $107,923
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rutherford, M. J.	JSC/Harris, J. W.	32-Geological Sci

NSG 1076 **Brown University** 3299

Large-scale wavelike eddies and their near and far jet noise field

Period	*Obligations*	
07/01/74-07/31/76	FY76:	TOTAL: $51,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Liu, J. T.	LARC/Maestrello, L.	39-Env Sci, NEC

NSG 1222 **Brown University** 3300

Methods of fabrication of large photodiode/amplifier arrays

Period	*Obligations*	
08/01/75-04/30/77	FY76: $8,400	TOTAL: $8,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Patterson, W. R., III	LARC/Kelly Iv, W. L.	45-Elec Engr

NSG 5036 **Brown University** 3301

Super-high data compression for the transmission of data

Period	*Obligations*	
12/01/74-03/31/76	FY76:	TOTAL: $35,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cooper, D. B.	GSFC/Lynch, T. J.	21-Mathematics

NSG 1008 **University of Rhode Island** 3302

Development of three dimensional numerical pollutant transport modeling techniques for continental shelf applications

Period	*Obligations*	
03/01/74-09/30/76	FY76: $19,491	TOTAL: $38,719
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Spaulding, M. L.	LARC/Suttles, J. T.	49-Engr, NEC

SOUTH CAROLINA

NSG 8004 **Benedict College** 3303

A study of escape gas and polymetric film formation on metallic surfaces

Period	*Obligations*	
01/21/74-01/21/76	FY76:	TOTAL: $45,756
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kinard, J. T.	MSFC/Kent, M. I.	12-Chemistry

NAS 9-13669 **Clemson University - Clemson** 3304

High temperature hyperfiltration water reclamation unit

Period	*Obligations*	
08/14/73-08/15/77	FY76: $15,000	TOTAL: $105,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gaddis, J. L. Brandon, C. A.	JSC/Reveley, W. F.	46-Mech Engr

NAS 9-14006 **Clemson University - Clemson** 3305

Crop status evaluations and yield predictions

Period	*Obligations*	
04/01/74-10/01/76	FY76: $24,707	TOTAL: $127,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Haun, J. R.	JSC/Barnett, T. L.	39-Env Sci, NEC

NSG 1125 **Clemson University - Clemson** 3306

Active control optimization techniques

Period	*Obligations*	
01/01/75-06/30/76	FY76:	TOTAL: $23,472
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rudisill, C. S.	LARC/Abel, I. LARC/Doggett, R. V., Jr.	41-Aero Engr

NSG 1297 **Clemson University - Clemson** 3307

Crack growth in bonded isotropic and orthotropic elastic half-planes

Period	*Obligations*	
04/01/76-03/31/77	FY76: $32,147	TOTAL: $32,147
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Goree, J. G.	LARC/Poe, C. C., Jr.	46-Mech Engr

NSG 8021 **South Carolina State College** 3308

Critical currents in superconducting thin films

Period	*Obligations*	
08/15/74-03/15/76	FY76:	TOTAL: $22,019
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Payne, J. E.	MSFC/Urban, E. W. MSFC/Kent, M. I.	13-Physics

NAS 8-28660 **University of South Carolina** 3309

Study of microwave down-converters operating in Ku band

Period	*Obligations*	
04/19/72-02/28/77	FY76: $30,000	TOTAL: $77,998
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fellers, R. G.	MSFC/Lowrey, D. O.	45-Elec Engr

NAS10-8354 **University of South Carolina** 3310

In-line dynamic contamination monitoring of fluids for space system

Period	*Obligations*	
06/18/73-02/10/75	FY76:	TOTAL: $60,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bonnell, R. D. Neuman, L.	KSC/Jorolan, A. E. KSC/Boggs, W. H.	43-Chem Engr

NGL 41-002-003 **University of South Carolina** 3311

Infrared spectra of molecules & materials of astrophysical interest

Period	*Obligations*	
05/10/65-05/31/78	FY76: $30,517	TOTAL: $252,988
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Durig, J. R.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

SOUTH CAROLINA (Continued)

NSG 7076 **University of South Carolina** **3312**
Paleohydrology of Mars
Period *Obligations*
07/01/74-06/30/76 FY76: $24,862 TOTAL: $39,599
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Nummedal, D. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NSG 7096 **University of South Carolina** **3313**
A model for the formation of protocells from glycine-rich proteimoids
Period *Obligations*
10/08/74-08/31/76 FY76: $25,627 TOTAL: $48,136
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rohlfing, D. L. HQ-SB/Young, R. S. 51-Biology

SOUTH DAKOTA

NAS 5-23470 **South Dakota School of Mines & Tech** **3314**
An RF hydrogen discharge dissociator
Period *Obligations*
03/23/76-04/22/77 FY76: $5,100 TOTAL: $5,100
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gruber, C. L. GSFC/Reinhardt, V. S. 45-Elec Engr

NAS 5-20982 **South Dakota State University** **3315**
ERTS data follow-on investigation
Period *Obligations*
03/10/75-01/10/77 FY76: $78,034 TOTAL: $155,034
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Schmer, F. GSFC/Gordon, F. 32-Geological Sci

NGL 42-003-007 **South Dakota State University** **3316**
Remote sensing of soils, land forms, and land use in the northern great plains in preparation for ERTS applications
Period *Obligations*
07/27/70-06/30/79 FY76: TOTAL: $850,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Myers, V. I. HQ-P/Vitale, J. A. 39-Env Sci, NEC

TENNESSEE

NGR 43-021-002 **Fisk University** **3317**
Optical effect of contamination of infrared windows by materials in outer space
Period *Obligations*
11/01/73-12/31/76 FY76: $25,413 TOTAL: $73,214
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Silberman, E. MSFC/Kroes, R. L. 13-Physics
MSFC/Kent, M. I.

NSG 8007 **Fisk University** **3318**
Properties and scattering amplitudes at very high frequencies
Period *Obligations*
06/03/74-06/03/76 FY76: $400 TOTAL: $50,216
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Neugebauer, G. MSFC/Parnell, T. A. 13-Physics
MSFC/Kent, M. I.

NSG 8035 **Fisk University** **3319**
Asymptotic properties of scattering amplitudes
Period *Obligations*
06/02/76-06/01/77 FY76: $25,000 TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mickens, R. E. MSFC/Parnell, T. A. 12-Chemistry
MSFC/Kent, M. I.

NAS 8-31189 **Memphis State University** **3320**
Optimization of absorption air conditioning systems for solar energy applications
Period *Obligations*
09/01/74-08/31/76 FY76: $15,626 TOTAL: $41,570
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Perry, E. MSFC/Patterson, W. C. 46-Mech Engr
MSFC/Clark, D. C.

NAS 9-13878 **Memphis State University** **3321**
Digital voice processor
Period *Obligations*
06/01/74-08/31/76 FY76: TOTAL: $64,700
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Morris, C. F. JSC/Shack, P. E. 45-Elec Engr

NGT 43-014-750 **Tennessee State University** **3322**
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/75-05/30/77 FY76: $14,000 TOTAL: $28,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clark, Y. Y. HQ-P/Pohly, J. G. 49-Engr, NEC
HQ-U/Jenkins, H. G.

NSG 8012 **Tennessee State University** **3323**
Applications of acoustic emission to space flight hardware
Period *Obligations*
06/03/74-07/01/77 FY76: $22,500 TOTAL: $114,457
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hougton, R. MSFC/Humphries, W. R. 46-Mech Engr
Packman, P. F. MSFC/Kent, M. I.

NSG 8032 **Tennessee State University** **3324**
An investigation of the motion of small particles as related to the formulation of zero gravity experiments
Period *Obligations*
01/01/76-12/31/76 FY76: $45,894 TOTAL: $45,894
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Busby, M. R. MSFC/Cliff, W. C. 46-Mech Engr
MSFC/Kent, M. I.

NASA'S UNIVERSITY PROGRAM
TENNESSEE (Continued)

NAS 8-31252 **Tennessee Technological University** 3325

Data buoy hardware feasibility study

Period	*Obligations*	
11/27/74-09/26/75	FY76:	TOTAL: $6,375
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Childress, R. Q.	MSFC/Kadrmas, K. A. MSFC/Morton, R. R.	45-Elec Engr

NAS 8-31564 **Tennessee Technological University** 3326

Study of utilization of solar energy for residential heating and cooling application

Period	*Obligations*	
07/01/75-09/15/76	FY76: $9,890	TOTAL: $19,890
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Griggs, E. I.	MSFC/Humphries, W. R.	31-Atmos Sci

NCA 8-102 **Tennessee Technological University** 3327

Study of the heat transfer characteristics of a PCM thermal capacitor

Period	*Obligations*	
11/08/74-10/07/75	FY76:	TOTAL: $23,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Griggs, E. I.	MSFC/Humphries, W. R.	45-Elec Engr

NGR 43-003-015 **Tennessee Technological University** 3328

Investigation of open-loop amplification of Reynolds number dependent processes

Period	*Obligations*	
09/16/71-12/31/76	FY76: $25,000	TOTAL: $107,750
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Purdy, K. R. Ventrice, M. B.	LERC/Priem, R. J.	46-Mech Engr

NAS 5-20672 **University of Tennessee - Knoxville** 3329

Molecular absorption parameters study

Period	*Obligations*	
07/29/74-08/31/77	FY76: $9,000	TOTAL: $22,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fox, K.	GSFC/Kunde, V. G. GSFC/Hanel, R. A.	31-Atmos Sci

NAS 8-27296 **University of Tennessee - Knoxville** 3330

Vibration effects on strapdown navigation accuracy

Period	*Obligations*	
04/16/71-08/31/76	FY76: $28,439	TOTAL: $245,423
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kennedy, E. J. Blalock, T. V.	MSFC/Hertsgaard, H. B. MSFC/Gaines, B. J.	42-Astro Engr

NAS 8-29271 **University of Tennessee - Knoxville** 3331

Application of image enhancement techniques to remote manipulator operations

Period	*Obligations*	
01/08/73-01/15/77	FY76: $45,745	TOTAL: $120,648
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gonzalez, R. C.	MSFC/Huggins, C. T. MSFC/Borelli, M. T.	45-Elec Engr

NAS 8-29584 **University of Tennessee - Knoxville** 3332

Study of wind profiles over nonuniform surface relative to ground design of aircraft & space vehicles

Period	*Obligations*	
02/02/73-06/30/77	FY76: $115,029	TOTAL: $351,824
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frost, W.	MSFC/Fichtl, G. H. MSFC/Alexander, M.	46-Mech Engr

NAS 8-29632 **University of Tennessee - Knoxville** 3333

Teleoperator equations of motion

Period	*Obligations*	
05/07/73-09/31/74	FY76:	TOTAL: $29,861
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hung, J. C.	MSFC/Ellsworth, D. J.	46-Mech Engr

NAS 8-31143 **University of Tennessee - Knoxville** 3334

Use of ERTS data to update and map the wetlands of western Tennessee

Period	*Obligations*	
10/21/74-12/31/76	FY76: $20,000	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rehder, J. B.	MSFC/Escue, W. T. MSFC/Downs, S. W., Jr.	39-Env Sci, NEC

NAS 8-31718 **University of Tennessee - Knoxville** 3335

Thunderstorm modeling and satellite ground truth cloud studies

Period	*Obligations*	
11/14/75-12/17/76	FY76: $25,000	TOTAL: $25,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frost, W.	MSFC/Hill, K.	31-Atmos Sci

NAS 8-31980 **University of Tennessee - Knoxville** 3336

Tennessee remote sensing applications research

Period	*Obligations*	
04/13/76-04/12/77	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shahroki, F.	MSFC/Paludan, C. T. MSFC/Daniels, J. L., Jr.	39-Env Sci, NEC

NAS 8-32118 **University of Tennessee - Knoxville** 3337

Natural wind environment criteria for the design of wind machines

Period	*Obligations*	
06/28/76-04/28/77	FY76: $40,000	TOTAL: $40,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frost, W.	MSFC/Fichtl, G. H. MSFC/Alexander, M.	31-Atmos Sci

NGL 43-001-006 **University of Tennessee - Knoxville** 3338

Spectroscopic studies of life shape of atmospheric gases & of absorption bands of inorganic solids

Period	*Obligations*	
01/07/64-09/30/78	FY76: $75,000	TOTAL: $1,243,628
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gailar, N. M.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 43-001-140 **University of Tennessee - Knoxville** **3339**
Experimental investigations of opaque minerals and cooling history of lunar rocks

Period	*Obligations*	
09/01/73-01/31/79	FY76: $113,100	TOTAL: $299,100
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Taylor, L. A.	JSC/Harris, J. W.	11-Astronomy

NGR 43-001-134 **University of Tennessee - Knoxville** **3340**
Research on fan noise caused by fluctuating lift, inlet turbulence, and distortion

Period	*Obligations*	
06/27/73-08/31/77	FY76:	TOTAL: $47,060
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lumsdaine, E.	LERC/Dittmar, J. H.	41-Aero Engr

NGR 43-001-135 **University of Tennessee - Knoxville** **3341**
Research in aeroacoustics

Period	*Obligations*	
06/08/73-08/31/76	FY76:	TOTAL: $48,840
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Maus, J. R.	LERC/Reshotko, M.	41-Aero Engr

NSG 1081 **University of Tennessee - Knoxville** **3342**
Investigation of inlet noise suppression using high subsonic Mach numbers

Period	*Obligations*	
07/15/74-09/30/76	FY76: $26,000	TOTAL: $51,180
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lumsdaine, E.	LARC/Clark, L. R.	41-Aero Engr

NSG 1163 **University of Tennessee - Knoxville** **3343**
Comparison of the fracture toughness of metal-matrix composites as determined by four different techniques

Period	*Obligations*	
05/01/75-09/30/76	FY76:	TOTAL: $47,255
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wright, M. A.	LARC/Newman, J. C., Jr.	47-Materials Engr

NSG 1171 **University of Tennessee - Knoxville** **3344**
Study of tandem blades for helicopter rotors

Period	*Obligations*	
06/01/75-05/31/77	FY76: $37,425	TOTAL: $70,465
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lumsdaine, E.	LARC/Hammond, C. E.	41-Aero Engr

NSG 1224 **University of Tennessee - Knoxville** **3345**
A study of unsteady transonic flow analysis

Period	*Obligations*	
08/07/75-11/06/76	FY76: $21,470	TOTAL: $21,470
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kimble, K. R. Wu, J. M.	LARC/Bland, S. R.	41-Aero Engr

NSG 1261 **University of Tennessee - Knoxville** **3346**
Finite element solution of uniformly parabolic differential equations

Period	*Obligations*	
12/01/75-11/30/76	FY76: $16,692	TOTAL: $16,692
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baker, A. J.	LARC/Smith, R. E. LARC/Shoosmith, J. N.	21-Mathematics

NSG 5002 **University of Tennessee - Knoxville** **3347**
Research of the architecture and data processing alternatives for the TSE computer

Period	*Obligations*	
05/01/74-08/31/76	FY76: $56,692	TOTAL: $112,576
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bodenheimer, R. E. Gonzalez, R. C.	GSFC/Schaefer, D. H.	21-Mathematics

NSG 5040 **University of Tennessee - Knoxville** **3348**
The on-board determination of the orbit of a satellite using Chebyshev series

Period	*Obligations*	
02/01/75-01/31/76	FY76: $9,086	TOTAL: $27,086
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Feagin, T. Berger, P. E. Lowder, H. E., Jr.	GSFC/Velez, C. E. GSFC/Fuchs, A. J.	49-Engr, NEC

NSG 7049 **University of Tennessee - Knoxville** **3349**
Line identification and lifetime measurements in the XUV and soft X-ray regions

Period	*Obligations*	
05/01/74-12/31/76	FY76:	TOTAL: $37,251
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sellin, I. A.	HQ-ST/Timothy, A. F.	11-Astronomy

NAS 5-22495 **University of Tennessee - Memphis** **3350**
Programmable data collection platform study

Period	*Obligations*	
06/26/75-11/17/76	FY76: $34,699	TOTAL: $79,699
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rochelle, R. W.	GSFC/Allen, W. K.	31-Atmos Sci

NAS 9-14918 **University of Tennessee - Memphis** **3351**
Investigation of toxicity of the pyrolysis products of spacecraft materials

Period	*Obligations*	
02/01/76-01/31/77	FY76: $50,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Austian, J. Lawrence, W. H.	JSC/Kaplan, H. L.	12-Chemistry

NAS 8-30656 **Vanderbilt University** 3352
Study of diffusion coefficients of glasses under zero-g
Period *Obligations*
06/01/74-09/30/76 FY76: $20,000 TOTAL: $64,647
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kinser, D. L. MSFC/Nichols, R. L. 13-Physics
MSFC/King, H. M.

NAS 8-30883 **Vanderbilt University** 3353
Discrete component bonding and thick-film materials study
Period *Obligations*
06/26/74-10/01/76 FY76: $20,000 TOTAL: $34,954
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kinser, D. L. MSFC/Caruso, S. V. 47-Materials Engr
MSFC/Filip, G. L.

NSG 1232 **Vanderbilt University** 3354
Nuclear pumped lasers
Period *Obligations*
[illegible]/05/75-08/04/77 FY76: $27,707 TOTAL: $27,707
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lee, J. H. LARC/Hohl, F. 13-Physics

NSG 1235 **Vanderbilt University** 3355
Production and diagnostics of dense nuclear plasmas
Period *Obligations*
09/01/75-08/31/76 FY76: $57,065 TOTAL: $57,065
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lee, J. H. LARC/Hohl, F. 13-Physics

TEXAS

NAS 9-10537 **Baylor College of Medicine** 3356
Study of human adrenal control mechanisms
Period *Obligations*
04/23/70-09/30/76 FY76: $20,700 TOTAL: $165,290
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Campbell, B. O. JSC/Leach, C. S. 52-Clinical Med

NAS 9-11201 **Baylor College of Medicine** 3357
Radioisotopic study
Period *Obligations*
06/30/70-10/31/76 FY76: $10,000 TOTAL: $95,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Johnson, P. C. JSC/Leach, C. S. 5[illegible]e Sci, NEC

NAS 9-13452 **Baylor College of Medicine** 3358
Neurophysiological research relating performance to stress
Period *Obligations*
05/24/73-05/31/76 FY76: TOTAL: $105,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Roessler, R. JSC/Shumate, W. H. 53-Other Medical

NAS 9-13540 **Baylor College of Medicine** 3359
Critical analysis of amino acid excretion patterns
Period *Obligations*
06/28/73-08/31/76 FY76: TOTAL: $59,600
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Di Ferrante, N. JSC/Leach, C. S. 59-Life Sci, NEC

NAS 9-13737 **Baylor College of Medicine** 3360
Analysis of body calcium
Period *Obligations*
02/01/74-08/02/76 FY76: $36,304 TOTAL: $201,304
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Johnson, P. C. JSC/Smith, M. C., Jr. 53-Other Medical
Scheld, W. JSC/Hoffman, R. A.

NAS 9-14322 **Baylor College of Medicine** 3361
Cellular immune response study
Period *Obligations*
08/01/74-11/30/76 FY76: $100,000 TOTAL: $200,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Criswell, B. S. JSC/Kimzey, S. L. 52-Clinical Med

NAS 9-14368 **Baylor College of Medicine** 3362
Study of lymphocyte heterogeneity morphological and functional correlations
Period *Obligations*
11/01/74-10/31/76 FY76: $54,570 TOTAL: $82,570
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rich, R. R. JSC/Kimzey, S. L. 53-Other Medical
Talletta, J. M.

NAS 9-14406 **Baylor College of Medicine** 3363
ASTP experiment 032
Period *Obligations*
03/10/75-03/01/76 FY76: TOTAL: $29,051
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Martin, R. R. JSC/Kimzey, S. L. 53-Other Medical

NAS 9-14407 **Baylor College of Medicine** 3364
Evaluation of primary irritancy and allergenicity of materials proposed for crew apparel
Period *Obligations*
09/19/74-04/18/77 FY76: $11,000 TOTAL: $20,978
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Duncan, W. C. JSC/K[illegible]lan, H. L. 52-Clinical Med

NAS 9-14468 **Baylor College of Medicine** 3365
ASTP experiment 031
Period *Obligations*
03/10/75-03/01/76 FY76: TOTAL: $53,622
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Criswell, B. S. JSC/Kimzey, S. L. 53-Other Medical

NAS 9-14546 Baylor College of Medicine 3366
Etiological study of motion sickness by using subhuman primates

Period	*Obligations*	
05/01/75-04/30/77	FY76: $34,494	TOTAL: $64,494
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Igarashi, M.	JSC/Homick, J. L.	51-Biology

NAS 9-14603 Baylor College of Medicine 3367
Biomedical study concerning aberrations of immunological functions associated with space flight

Period	*Obligations*	
06/01/75-06/30/76	FY76:	TOTAL: $29,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gentry, L. O.	JSC/Kimzey, S. L.	53-Other Medical

NAS 9-14662 Baylor College of Medicine 3368
Influence of the external parameters of space flight on the regulation of blood volume

Period	*Obligations*	
06/01/75-09/30/76	FY76:	TOTAL: $59,975
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, P. C.	JSC/Kimzey, S. L.	52-Clinical Med

NAS 9-14715 Baylor College of Medicine 3369
Renal response to actual and simulated space flight

Period	*Obligations*	
06/16/75-08/31/76	FY76:	TOTAL: $40,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Suki, W. N.	JSC/Leach, C. S.	59-Life Sci, NEC

NAS 9-14820 Baylor College of Medicine 3370
Bioprocessing development immune/cellular applications

Period	*Obligations*	
10/16/75-10/16/76	FY76: $29,623	TOTAL: $29,623
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Twomey, J. J.	JSC/Morrison, D. R.	51-Biology

NAS 9-15046 Baylor College of Medicine 3371
Effects of alterations in preload and afterload on ventricular function

Period	*Obligations*	
06/01/76-06/01/77	FY76: $50,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Alexander, J. K.	JSC/Hoffler, G. W.	53-Other Medical

NGR 44-032-013 Bishop College 3372
Relationship of tissue growth stimulant to stress reactions in space

Period	*Obligations*	
09/01/73-08/31/76	FY76: $20,000	TOTAL: $88,761
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kutsky, R. J.	ARC/Danellis, J. V. ARC/Holton, E. M.	51-Biology

NGR 44-095-001 Hardin - Simmons University 3373
Study of psychophilic organisms isolated from manufacture and assembly areas of spacecraft to be used in the Viking missions

Period	*Obligations*	
08/21/72-10/31/76	FY76: $105,000	TOTAL: $253,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Foster, T. L.	HQ-SB/Hall, L. B. HQ-SL/Gallagher, S. G.	51-Biology

NGR 44-081-001 Houston Baptist University 3374
Research in stellar ultraviolet spectroscopy

Period	*Obligations*	
05/20/70-06/30/77	FY76: $38,000	TOTAL: $189,335
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Modisette, J. L.	JSC/Kondo, Y.	11-Astronomy

NGR 44-081-005 Houston Baptist University 3375
Analysis of Copernicus 0A011 data on the MG 11 resonance doublet at 2802 and 2795A, in early type stars

Period	*Obligations*	
01/21/74-01/20/77	FY76:	TOTAL: $7,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Modisette, J. L.	JSC/Kondo, Y.	11-Astronomy

NSG 9038 Houston Baptist University 3376
Obtaining high spatial resolution planetary imagery with potential shuttle era instrumentation

Period	*Obligations*	
01/01/76-12/31/76	FY76: $14,250	TOTAL: $14,250
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Morgan, T. H.	JSC/Potter, A. E.	11-Astronomy

NGR 44-087-002 Pan American University 3377
Diffuse reflectance spectra of frosts occurring on astronomical objects

Period	*Obligations*	
01/01/74-12/31/76	FY76: $32,640	TOTAL: $87,861
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Glaser, F. M.	JPL/Huntress, W. T.	32-Geological Sci

NSG 9033 Pan American University 3378
Experimental tests and model calculations on wheat varieties grown in India/Pakistan and Texas

Period	*Obligations*	
08/28/75-08/31/76	FY76: $34,000	TOTAL: $34,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lemaster, E. W.	JSC/Potter, A. E.	39-Env Sci, NEC

NGT 44-033-750 Prairie View A&M University 3379
Training of undergraduate students in sciences and engineering

Period	*Obligations*	
06/01/75-05/31/77	FY76: $14,000	TOTAL: $28,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Greaux, A. E.	HQ-P/Pohly, J. G. HQ-U/Jenkins, H. G.	49-Engr, NEC

NSG 9006 **Prairie View A&M University** **3380**
Measurement of growth morphological and bi-directional scattering parameters of wheat

Period	Obligations	
06/01/74-10/31/76	FY76: $30,000	TOTAL: $63,019

Prin. Invest.	NASA Tech. Officer	CASE Category
Sohel, M. S. Brams, E.	JSC/Potter, A. E.	39-Env Sci, NEC

NAS 2-8676 **Rice University** **3381**
Research study on metabolism and energetics in hypogravity

Period	Obligations	
12/23/74-09/30/76	FY76: $15,000	TOTAL: $44,999

Prin. Invest.	NASA Tech. Officer	CASE Category
Ward, C. H.	ARC/Taketa, S. T.	53-Other Medical

NAS 5-9317 **Rice University** **3382**
Reduction and analysis of data from OGO-C&D ion chamber experiment

Period	Obligations	
03/23/66-12/01/78	FY76:	TOTAL: $201,552

Prin. Invest.	NASA Tech. Officer	CASE Category
Anderson, H. R., Jr.	GSFC/Meese, K. J.	32-Geological Sci

NAS 5-23338 **Rice University** **3383**
Theoretical predictions and data analysis

Period	Obligations	
02/04/74-01/31/77	FY76:	TOTAL: $4,200

Prin. Invest.	NASA Tech. Officer	CASE Category
Cloutier, P. A. Michel, F. C.	GSFC/Taylor, H. A., Jr.	13-Physics

NAS 6-1667 **Rice University** **3384**
Investigation into relationship between field aligned currents and auroral particle fluxes

Period	Obligations	
07/23/69-06/30/76	FY76: $190,000	TOTAL: $1,704,809

Prin. Invest.	NASA Tech. Officer	CASE Category
Anderson, H. R., Jr. Cloutier, P. A.	WFC/Ballance, C. W., Jr. WFC/Gray, J. W.	11-Astronomy

NAS 8-31679 **Rice University** **3385**
Man/machine interface study

Period	Obligations	
11/06/75-05/05/76	FY76: $22,974	TOTAL: $22,974

Prin. Invest.	NASA Tech. Officer	CASE Category
Anderson, H. R., Jr.	MSFC/Roberts, W. T.	13-Physics

NAS 8-32030 **Rice University** **3386**
Thermodynamic property determination in low gravity

Period	Obligations	
05/23/76-10/28/76	FY76: $10,967	TOTAL: $10,967

Prin. Invest.	NASA Tech. Officer	CASE Category
Margrave, J. L.	MSFC/Berge, L. H. MSFC/Snyder, R. S.	13-Physics

NAS 9-11827 **Rice University** **3387**
Adsorption bed models used in simulation of atmospheric control systems

Period	Obligations	
05/10/71-12/31/77	FY76:	TOTAL: $74,860

Prin. Invest.	NASA Tech. Officer	CASE Category
Davis, S. H.	JSC/Kissinger, L. D.	43-Chem Engr

NAS 9-12776 **Rice University** **3388**
Applied mathematics in classification analysis

Period	Obligations	
05/26/72-07/31/76	FY76: $61,500	TOTAL: $351,420

Prin. Invest.	NASA Tech. Officer	CASE Category
Lynn, M. S.	JSC/Baker, K.	21-Mathematics

NAS 9-12912 **Rice University** **3389**
Germ-free plant study

Period	Obligations	
06/19/72-05/31/76	FY76:	TOTAL: $20,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Ward, C. H.	JSC/Zieglschmid, J. F.	51-Biology

NGL 44-006-001 **Rice University** **3390**
Research on physics of solid materials including study of basic laws governing behavior of solids at high temperatures

Period	Obligations	
05/01/72-06/30/78	FY76:	TOTAL: $4,550,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Rorschach, H. E.	LERC/Lad, R. A.	13-Physics

NGL 44-006-012 **Rice University** **3391**
Laboratory development of solar wind heavy-ion mass spectrometer

Period	Obligations	
06/27/64-06/30/78	FY76: $56,000	TOTAL: $1,258,736

Prin. Invest.	NASA Tech. Officer	CASE Category
Michel, F. C.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

NGL 44-006-127 **Rice University** **3392**
Lunar fines, their origin, evolution, and interaction with solar wind and cosmic rays

Period	Obligations	
02/16/71-01/31/77	FY76: $23,200	TOTAL: $421,749

Prin. Invest.	NASA Tech. Officer	CASE Category
Heymann, D.	JSC/Harris, J. W.	32-Geological Sci

NGR 44-006-137 **Rice University** **3393**
Analysis of data on the magnetotail and solar wind

Period	Obligations	
12/29/70-12/31/76	FY76: $40,000	TOTAL: $197,697

Prin. Invest.	NASA Tech. Officer	CASE Category
Dessler, A. J.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

NGR 44-006-156 **Rice University** **3394**
Photoionization of atoms in metastable states
Period *Obligations*
06/21/72-06/30/76 FY76: TOTAL: $168,049
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Stebbings, R. F. JSC/Hudson, R. D. 13-Physics

NSG 7015 **Rice University** **3395**
Nuclear gamma-ray astronomy prospects for HEAO-B
Period *Obligations*
04/01/74-07/31/77 FY76: $17,121 TOTAL: $42,121
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clayton, D. D. HQ-SA/Sofia, S. 11-Astronomy

NSG 7025 **Rice University** **3396**
Investigation of lunar, terminator and nightside particle fluxes and surface interactions
Period *Obligations*
03/01/74-02/28/76 FY76: TOTAL: $58,926
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lenzen, K. H. HQ-SM/Stuart-Alexander, D. E.
31-Atmos Sci
Siegel, W. HQ-SM/Roberson, F. I.

NSG 7032 **Rice University** **3397**
Apollo data synthesis: Lunar atmosphere and ionosphere
Period *Obligations*
04/01/74-05/31/77 FY76: TOTAL: $19,861
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Michel, F. C. HQ-SL/Williams, R. J. 31-Atmos Sci
Manka, R. H.

NSG 7043 **Rice University** **3398**
Research on planetary atmospheres
Period *Obligations*
03/01/74-02/28/79 FY76: $79,204 TOTAL: $160,275
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Chamberlain, J. W. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NSG 7157 **Rice University** **3399**
Analysis and synthesis of Apollo lunar surface experiments package suprathermal ion
Period *Obligations*
07/01/75-04/30/77 FY76: $119,736 TOTAL: $1[illegible],736
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Freeman, J. W., Jr. HQ-ST/Williams, R. J. 32-Geological Sci
Hills, H. K. HQ-SL/Flinn, E. A.

NSG 9039 **Saint Mary's University** **3400**
X-ray diffraction studies of shocked lunar analogs
Period *Obligations*
01/10/76-01/09/77 FY76: $19,800 TOTAL: $19,800
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hanss, R. E. JSC/Horz, F. 32-Geological Sci

NSG 1206 **Southern Methodist University** **3401**
Fabrication and evaluation of gallium arsenide solar cells with solution-grown germanium doped P-region
Period *Obligations*
08/01/75-01/31/77 FY76: $14,916 TOTAL: $25,416
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ashley, K. L. LARC/Walker, G. H. 45-Elec Engr
LARC/Conway, E. J.

NSG 2006 **Southern Methodist University** **3402**
Monitoring of the Dallas/Fort Worth regional airport
Period *Obligations*
02/01/74-03/31/77 FY76: $18,439 TOTAL: $49,666
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Starling, J. ARC/Tanner, T. A. 79-Soc Sci, NEC

NGT 44-073-750 **Texas A&I University** **3403**
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/75-05/31/77 FY76: $7,000 TOTAL: $14,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Franke, E. A. HQ-P/Pohly, J. G. 49-Engr, NEC
HQ-U/Jenkins, H. G.

NAS 1-14185 **Texas A&M University** **3404**
Terminator orbit polarimetric study
Period *Obligations*
10/16/75-07/01/76 FY76: $24,510 TOTAL: $24,510
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kattawar, G. W. LARC/Staylor, W. F. 42-Astro Engr
Plass, G. N.
Ams, A. D.

NAS 5-20796 **Texas A&M University** **3405**
ERTS follow-on investigation
Period *Obligations*
01/15/75-11/15/76 FY76: $14,375 TOTAL: $111,375
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rouse, J. GSFC/Stonesifer, G. R.
59-Life Sci, NEC

NAS 5-22534 **Texas A&M University** **3406**
LANDSAT data analysis
Period *Obligations*
08/21/75-02/21/77 FY76: $54,222 TOTAL: $54,222
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harwood, P. GSFC/Gordon, F. 39-Env Sci, NEC

NAS 5-22840 **Texas A&M University** **3407**
Domonic system extension to improve performance, evaluate software reliability and expand documentation capabilities
Period *Obligations*
11/10/75-11/10/76 FY76: $149,451 TOTAL: $149,451
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Simmons, D. B. GSFC/Damon, E. P. 21-Mathematics
Elliott, R. W.

TEXAS (Continued)

NAS 5-22966 **Texas A&M University** **3408**
Nimbus G EXP team
Period *Obligations*
02/10/76-02/10/79 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
El-Sayed, S. Z. GSFC/Hovis, W. A. 31-Atmos Sci

NAS 5-23458 **Texas A&M University** **3409**
Analysis of synthetic aperture radar imagery
Period *Obligations*
04/14/76-04/15/77 FY76: $21,991 TOTAL: $21,991
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Blanchard, B. J. GSFC/Schmugge, T. 39-Env Sci, NEC

NAS 8-26379 **Texas A&M University** **3410**
Development of techniques to control dislocations created during the fabrication of large scale integrated circuit alloys
Period *Obligations*
08/27/70-12/31/76 FY76: $40,000 TOTAL: $260,310
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Porter, W. A. MSFC/Nowakowski, M. F. 45-Elec Engr
MSFC/Holiday, A. M.

NAS 8-26751 **Texas A&M University** **3411**
Atmospheric variability and vertical motions
Period *Obligations*
01/15/71-12/31/75 FY76: TOTAL: $181,372
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Scoggins, J. R. MSFC/Turner, R. E. 31-Atmos Sci
MSFC/Hill, C. K.

NAS 8-29582 **Texas A&M University** **3412**
Feasibility of aircraft platforms to measure building wakes for aeronautical safety applications
Period *Obligations*
02/21/73-10/30/74 FY76: $404 TOTAL: $20,392
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brundidge, K. C. MSFC/Fichtl, G. H. 31-Atmos Sci
MSFC/Camp, D. W.

NAS 8-29764 **Texas A&M University** **3413**
Assessment of atmospheric relationships in support of space shuttle operations
Period *Obligations*
04/17/73-05/31/76 FY76: TOTAL: $34,991
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Scoggins, J. R. MSFC/Fichtl, G. H. 31-Atmos Sci
MSFC/Camp, D. W.

NAS 8-31234 **Texas A&M University** **3414**
Steady wind turbulence environments
Period *Obligations*
04/07/75-11/30/76 FY76: $2,500 TOTAL: $10,729
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brundidge, K. C. MSFC/Fichtl, G. H. 31-Atmos Sci
MSFC/Camp, D. W.

NAS 8-31332 **Texas A&M University** **3415**
Development of a moderately sized finite-element program for nonlinear structural analysis
Period *Obligations*
03/12/75-09/12/76 FY76: TOTAL: $45,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Strickland, J. A. MSFC/Key, J. E. 21-Mathematics
MSFC/Bianca, C. J.

NAS 8-31773 **Texas A&M University** **3416**
The relationship between severe storms and their environment
Period *Obligations*
01/02/76-03/01/77 FY76: $54,000 TOTAL: $54,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Scoggins, J. R. MSFC/Hill, C. K. 31-Atmos Sci
MSFC/Vaughan, W. W.

NAS 9-12434 **Texas A&M University** **3417**
Compression of rehydratable vegetables & cereals
Period *Obligations*
01/19/72-10/31/76 FY76: $15,000 TOTAL: $115,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Burns, E. E. JSC/Smith, M. C., Jr. 59-Life Sci, NEC

NAS 9-13894 **Texas A&M University** **3418**
Classification techniques evaluation and yield modeling for a large crop inventory project
Period *Obligations*
01/15/74-05/31/77 FY76: $10,831 TOTAL: $232,555
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hartley, H. O. JSC/Broune, I. D. 21-Mathematics

NAS 9-13904 **Texas A&M University** **3419**
Microwave soil moisture measurement and analysis
Period *Obligations*
02/11/74-03/31/77 FY76: $105,900 TOTAL: $187,730
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rouse, J. W., Jr. JSC/Buras, N. T. 39-Env Sci, NEC

NAS 9-14197 **Texas A&M University** **3420**
Remote sensing of wheat identification and yield
Period *Obligations*
06/01/74-05/31/76 FY76: TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rouse, J. L. JSC/Potter, A. E. 39-Env Sci, NEC
Toler, R. W. JSC/McPherson, T. M.

NAS 9-14470 **Texas A&M University** **3421**
Analysis of spectral data for wheat
Period *Obligations*
01/01/75-03/31/77 FY76: $93,900 TOTAL: $162,394
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harlan, C. JSC/Barnett, T. L. 39-Env Sci, NEC

NAS 9-14478 **Texas A&M University** **3422**
Aeroelasitc analytical studies of the space shuttle configurations

Period	*Obligations*	
09/30/74-01/31/77	FY76: $100,000	TOTAL: $165,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cavin, R. K., III Howze, J. W.	JSC/Hillje, E. R.	41-Aero Engr

NAS 9-14493 **Texas A&M University** **3423**
Definition and fabrication of an airborne scatterometer radar signal processor

Period	*Obligations*	
01/20/75-11/30/76	FY76: $29,900	TOTAL: $89,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schell, J. A.	JSC/Nitschke, H. A.	49-Engr, NEC

NAS 9-14556 **Texas A&M University** **3424**
Image 100 procedure manual development

Period	*Obligations*	
02/01/75-08/31/75	FY76: $960	TOTAL: $33,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Guseman, L. F., Jr.	JSC/Nolin, F. D.	21-Mathematics

NAS 9-14689 **Texas A&M University** **3425**
Application of feature selection

Period	*Obligations*	
06/01/75-05/31/77	FY76: $74,200	TOTAL: $108,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Guseman, L. F., Jr.	JSC/Browne, i. D.	21-Mathematics

NAS 9-14817 **Texas A&M University** **3426**
Microwave signature acquisition system improvements

Period	*Obligations*	
10/30/75-10/31/76	FY76: $52,014	TOTAL: $52,014
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Newton, R. W. Jean, B. R.	JSC/Hatcher, N. W.	13-Physics

NAS 9-14821 **Texas A&M University** **3427**
Development of a processor for the multifrequency microwave radiometer system to provide radiometric data onboard the P3A

Period	*Obligations*	
12/01/75-06/11/76	FY76: $12,800	TOTAL: $12,800
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schell, J. A.	JSC/Nitschke, H. A.	49-Engr, NEC

NAS 9-14828 **Texas A&M University** **3428**
Lunar sample irradiation services

Period	*Obligations*	
11/01/75-10/31/76	FY76: $10,000	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Randall, J. D.	JSC/Blanchard, D.	39-Env Sci, NEC

NAS 9-14875 **Texas A&M University** **3429**
Joint soil moisture experiment scatterometer data processing

Period	*Obligations*	
01/22/76-10/01/76	FY76: $30,000	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schell, J. A.	JSC/Buras, N. T.	32-Geological Sci

NAS 9-14896 **Texas A&M University** **3430**
Demonstrations of microwave techniques for characterization of watershed runoff

Period	*Obligations*	
02/18/76-02/17/77	FY76: $23,450	TOTAL: $23,450
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Blanchard, B. J.	JSC/Mason, C. C.	39-Env Sci, NEC

NAS 9-14904 **Texas A&M University** **3431**
Image analysis library software development

Period	*Obligations*	
02/02/76-01/31/77	FY76: $50,000	TOTAL: $50,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Guseman, L. F., Jr.	JSC/Hay, D. H.	21-Mathematics

NCA 2-773501 **Texas A&M University** **3432**
Trace contaminant control using radiofrequency and dc electrical discharges

Period	*Obligations*	
01/01/75-01/31/76	FY76:	TOTAL: $9,860
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Flamm, D.	ARC/Zill, L. P.	12-Chemistry

NGL 44-001-001 **Texas A&M University** **3433**
Interdisciplinary space-oriented research in physical, life and engineering sciences

Period	*Obligations*	
02/01/62-01/31/79	FY76:	TOTAL: $1,565,564
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rouse, J. W., Jr.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NGR 44-001-081 **Texas A&M University** **3434**
Relationships between stratospheric clear air turbulence and synoptic meteorological parameters

Period	*Obligations*	
02/14/69-08/31/75	FY76:	TOTAL: $106,569
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Scoggins, J. R.	DFRC/Ehernberger, L. J.	31-Atmos Sci

NGR 44-001-117 **Texas A&M University** **3435**
Radiative transfer in realistic planetary atmospheres

Period	*Obligations*	
07/19/71-09/30/78	FY76: $44,000	TOTAL: $215,420
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Plass, G. N.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

TEXAS (Continued)

NGR 44-001-152 — Texas A&M University — 3436

Magnetic studies of meteorites

Period	*Obligations*	
06/20/73-08/31/76	FY76: $11,579	TOTAL: $54,889
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rowe, M. W.	HQ-SL/Williams, R. J.	32-Geological Sci

NSG 1174 — Texas A&M University — 3437

Development of inverse transonic airfoil design methods including boundary layer and viscous interaction effects

Period	*Obligations*	
05/01/75-10/31/76	FY76:	TOTAL: $14,884
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Carlson, L. A.	LARC/South, J. C., Jr. LARC/Keller, J. D.	41-Aero Engr

NSG 2123 — Texas A&M University — 3438

The drag of two-dimensional bluff cylinders in transonic cross flow

Period	*Obligations*	
12/01/75-11/30/76	FY76: $5,824	TOTAL: $5,824
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
MacHa, J. M.	ARC/Malcolm, G. N.	41-Aero Engr

NSG 7037 — Texas A&M University — 3439

The origin of the genetic code-A physical chemical model of Codon assignment

Period	*Obligations*	
05/07/74-05/31/77	FY76: $44,000	TOTAL: $127,975
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Fendler, J. H. Nagyvary, J.	HQ-SB/Young, R. S.	12-Chemistry

NSG 7189 — Texas A&M University — 3440

A comparison of smooth, continuous velocity models and stepwise, layered velocity models for the lunar crust

Period	*Obligations*	
02/01/76-01/31/77	FY76: $20,704	TOTAL: $20,704
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gangi, A. F. Self, S. L.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NAS 9-11162 — Texas Tech University — 3441

Insulated ECG electrodes

Period	*Obligations*	
06/29/70-03/31/77	FY76: $29,940	TOTAL: $134,892
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Portnoy, W. M.	JSC/Day, J. L.	45-Elec Engr

NAS 9-14438 — Texas Tech University — 3442

West Texas Emergency Medical Service Conference

Period	*Obligations*	
10/29/74-09/30/76	FY76: $3,000	TOTAL: $23,159
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Portnoy, W. M.	JSC/Day, [illegible]	53-Other Medical

NSG 2137 — Texas Tech University — 3443

Pharmacological prevention of bone loss

Period	*Obligations*	
05/01/76-04/30/77	FY76: $8,000	TOTAL: $8,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kenny, A. D.	ARC/Holton, E. M.	51-Biology

NAS 1-9685 — University of Houston - Houston — 3444

Participation in the science planning for the Viking 1975 missions in the area of molecular analysis

Period	*Obligations*	
03/17/70-03/31/77	FY76: $35,180	TOTAL: $416,510
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Oro, J.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	39-Env Sci, NEC

NAS 2-9072 — University of Houston - Houston — 3445

Enumeration of viruses in water by laser beam spectrofluorometry

Period	*Obligations*	
02/10/76-11/14/76	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Allred, J. C. Bartel, A. H.	ARC/Ginoza, H. S.	51-Biology

NAS 9-11676 — University of Houston - Houston — 3446

Characterization of heat transfer in nutrient materials

Period	*Obligations*	
04/28/71-04/20/77	FY76: $4,996	TOTAL: $79,956
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cox, J. E.	JSC/Smith, M. C., Jr.	59-Life Sci, NEC

NAS 9-11845 — University of Houston - Houston — 3447

Data encoding study for space communication system

Period	*Obligations*	
06/14/71-09/01/76	FY76: $15,000	TOTAL: $82,500
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hayre, H. S.	JSC/Satterfield, J. M.	49-Engr, NEC

NAS 9-12777 — University of Houston - Houston — 3448

Applied mathematics in classification analysis

Period	*Obligations*	
05/24/72-05/31/76	FY76: $15,000	TOTAL: $332,350
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Decell, H. P., Jr.	JSC/Baker, K. JSC/Potter, A. E.	21-Mathematics

NAS 9-13262 — University of Houston - Houston — 3449

Development of pine seedling/tissue culture system

Period	*Obligations*	
01/15/73-09/30/76	FY76: $10,000	TOTAL: $109,900
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hanson, W. B. Hoffman, J. H.	JSC/Hoffman, R. A.	51-Biology

NAS 9-14209 **University of Houston - Houston** **3450**
Study of astrophysical problems
Period *Obligations*
06/01/74-02/28/77 FY76: $40,157 TOTAL: $109,373
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Sheldon, W. R. JSC/Golden, R. L. 11-Astronomy

NAS 9-14347 **University of Houston - Houston** **3451**
Analysis of space shuttle aerodynamics
Period *Obligations*
09/05/74-10/31/76 FY76: $35,725 TOTAL: $75,725
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Michalopoulos, C. D. JSC/Eggleston, J. M. 42-Astro Engr

NAS 9-14384 **University of Houston - Houston** **3452**
UV transmittance experimentation
Period *Obligations*
01/20/75-08/10/76 FY76: TOTAL: $12,825
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pitts, D. G. JSC/Loper, L. R. 59-Life Sci, NEC

NAS 9-14534 **University of Houston - Houston** **3453**
Development of automated analytical capability for the early detection of diabetes mellitus
Period *Obligations*
03/01/75-09/30/76 FY76: $25,450 TOTAL: $85,600
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Zlatkis, A. JSC/Schneider, H. J. 53-Other Medical

NAS 9-14629 **University of Houston - Houston** **3454**
Application of high resolution gas chromatography
Period *Obligations*
05/21/75-12/31/76 FY76: $16,000 TOTAL: $65,994
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Zlatkis, A. JSC/Schneider, H. J. 52-Clinical Med

NAS 9-14652 **University of Houston - Houston** **3455**
High energy, high weight charged particles dosimetry for the Apollo-Soyuz test project
Period *Obligations*
05/01/75-09/30/76 FY76: TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pinsky, L. S. JSC/Bailey, J. V. 13-Physics

NAS 9-14857 **University of Houston - Houston** **3456**
Effects of gravity on contractile proteins
Period *Obligations*
12/01/75-12/01/76 FY76: $25,000 TOTAL: $25,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Henney, H. R., Jr. JSC/Graves, R. C. 51-Biology

NAS 9-15000 **University of Houston - Houston** **3457**
Development of mathematical techniques for the analysis of remote sensing data
Period *Obligations*
05/18/76-05/31/77 FY76: $122,000 TOTAL: $122,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Decell, H. P., Jr. JSC/Heyborn, R. P. 21-Mathematics

NASW 2691 **University of Houston - Houston** **3458**
Revised narrative history of the Apollo-Saturn program
Period *Obligations*
06/28/74-08/27/76 FY76: TOTAL: $50,459
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Unavailable HQ-AD/Wright, M. D. 73-History

NCA 2-295502 **University of Houston - Houston** **3459**
Applications of cartan's theory of differential forms to problems in turbulence
Period *Obligations*
01/01/75-12/31/75 FY76: TOTAL: $10,662
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kiehn, R. M. ARC/Zill, L. P. 41-Aero Engr

NCA 2-295503 **University of Houston - Houston** **3460**
Investigation of biological lipid peroxidation
Period *Obligations*
12/01/74-11/30/75 FY76: TOTAL: $15,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bartel, A. H. ARC/Zill, L. P. 51-Biology

NCA 2-295601 **University of Houston - Houston** **3461**
Effects of hydrogen and radiating wavelengths on photo-chemical production of molecules under simulated Jovian conditions
Period *Obligations*
09/01/75-08/31/76 FY76: $11,000 TOTAL: $11,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Becker, R. S. ARC/Zill, L. P. 51-Biology

NCA 2-295602 **University of Houston - Houston** **3462**
Applications of topological features of hydrodynamics
Period *Obligations*
01/01/76-12/31/76 FY76: $12,272 TOTAL: $12,272
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kiehn, R. M. ARC/Zill, L. P. 13-Physics

NGL 44-005-041 **University of Houston - Houston** **3463**
Study of solar flare particle events and related solar physics
Period *Obligations*
05/20/66-09/30/76 FY76: TOTAL: $568,346
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goodman, C. JSC/Bailey, J. V. 13-Physics

NGL 44-005-090 **University of Houston - Houston** **3464**
General research program

Period	Obligations	
06/04/69-09/30/76	FY76:	TOTAL: $88,023

Prin. Invest.	NASA Tech. Officer	CASE Category
Huang, C. J.	JSC/Eandi, B. K.	49-Engr, NEC

NGR 44-005-002 **University of Houston - Houston** **3465**
Studies in organic cosmochemistry, including consideration of compound formation under primitive earth conditions & of organic material in selected meteorites

Period	Obligations	
06/18/62-11/30/76	FY76: $60,000	TOTAL: $724,905

Prin. Invest.	NASA Tech. Officer	CASE Category
Oro, J. Middleditch, B. S.	HQ-SB/Young, R. S.	32-Geological Sci

NGR 44-005-091 **University of Houston - Houston** **3466**
Spectroscopic and photochemical study of photochromic compounds

Period	Obligations	
03/07/69-01/31/77	FY76: $75,000	TOTAL: $405,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Becker, R. S.	HQ-SB/Young, R. S.	12-Chemistry

NGR 44-005-131 **University of Houston - Houston** **3467**
Geologic interpretation of Mars surface photography from Mariners 6 and 7

Period	Obligations	
10/26/70-12/31/75	FY76:	TOTAL: $91,557

Prin. Invest.	NASA Tech. Officer	CASE Category
King, E. A., Jr.	HQ-SL/Dwornik, S. E. HQ-SL/Holt, H. E.	32-Geological Sci

NGR 44-005-133 **University of Houston - Houston** **3468**
Investigation of auroral disturbances

Period	Obligations	
03/15/71-11/30/76	FY76:	TOTAL: $319,036

Prin. Invest.	NASA Tech. Officer	CASE Category
Sheldon, W. R.	HQ-ST/Cauffman, D. P.	31-Atmos Sci

NGR 44-005-137 **University of Houston - Houston** **3469**
Thermomagnetic torques in gases

Period	Obligations	
02/17/71-08/31/77	FY76:	TOTAL: $129,200

Prin. Invest.	NASA Tech. Officer	CASE Category
Hildebrandt, A. F.	JSC/Kondo, Y.	13-Physics

NSG 1277 **University of Houston - Houston** **3470**
Acoustics measurements in normal jet impingement

Period	Obligations	
02/15/76-02/14/77	FY76: $10,000	TOTAL: $10,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Kleis, S. J.	LARC/Hardin, J. C.	13-Physics

NSG 1290 **University of Houston - Houston** **3471**
Acoustics-turbulence interaction in a circular jet

Period	Obligations	
02/15/76-11/14/76	FY76: $33,000	TOTAL: $33,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Hussain, A. K.	LARC/Hefner, J. N.	41-Aero Engr

NSG 6008 **University of Houston - Houston** **3472**
Investigation of ionospheric disturbances using a parachute deployed payload

Period	Obligations	
12/01/75-11/30/76	FY76: $50,000	TOTAL: $50,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Sheldon, W. R.	WFC/Ballance, C. W., Jr. WFC/Gray, J. W.	19-Phys Sci, NEC

NSG 7198 **University of Houston - Houston** **3473**
Closure and ratio correlation analysis of lunar chemical and grain size data

Period	Obligations	
04/01/76-03/31/77	FY76: $6,980	TOTAL: $6,980

Prin. Invest.	NASA Tech. Officer	CASE Category
Butler, J. C.	HQ-SL/Williams, R. J. HQ-SL/Flinn, E. A.	32-Geological Sci

NSG 9042 **University of Houston - Houston** **3474**
Aromatic biosynthesis in pine tissues

Period	Obligations	
04/01/76-03/31/77	FY76: $29,800	TOTAL: $29,800

Prin. Invest.	NASA Tech. Officer	CASE Category
Coules, J. R.	JSC/Hoffman, R. A.	51-Biology

NAS 9-14874 **University of Houston - Clear Lake** **3475**
Analysis of remote sensing data: Screwworm eradication program

Period	Obligations	
12/10/75-01/01/77	FY76: $22,000	TOTAL: $22,000

Prin. Invest.	NASA Tech. Officer	CASE Category
Schuhmann, R. E.	JSC/Barnes, C. M.	59-Life Sci, NEC

NSG 9043 **University of Houston - Clear Lake** **3476**
Cosmic ray and solar flare irradiation history of regolith crystals and agglutinates

Period	Obligations	
06/01/76-01/31/77	FY76: $24,600	TOTAL: $24,600

Prin. Invest.	NASA Tech. Officer	CASE Category
Blanford, G. E.	JSC/Harris, J. W.	13-Physics

NSG 2077 **University of Texas - Arlington** **3477**
Large eddy structure of a turbulent boundary layer

Period	Obligations	
03/15/75-03/14/77	FY76: $11,979	TOTAL: $22,141

Prin. Invest.	NASA Tech. Officer	CASE Category
Payne, F. R.	ARC/Rubesin, M. W. ARC/Marvin, J. G.	41-Aero Engr

NAS 1-14160 **University of Texas - Austin** **3478**
Study of nonlinear propagation effects in jet noise

Period	*Obligations*	
09/15/75-12/29/76	FY76: $40,000	TOTAL: $40,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Blackstock, D. T.	LARC/Hilton, D. A. LARC/Seiner, J. M.	41-Aero Engr

NAS 5-20946 **University of Texas - Austin** **3479**
Study of relative satellite motion determination and prediction

Period	*Obligations*	
02/12/75-07/01/76	FY76:	TOTAL: $38,458
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tapley, B. D. Fowler, W. T. Schutz, B. E.	GSFC/Fuchs, A. J. GSFC/Velez, C. E.	49-Engr, NEC

NAS 5-21982 **University of Texas - Austin** **3480**
ATS-F millimeter wave experiment

Period	*Obligations*	
02/13/74-11/13/75	FY76:	TOTAL: $95,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Straiton, A. W. Fannin, B. M.	GSFC/Hirschmann, E.	45-Elec Engr

NAS 5-22576 **University of Texas - Austin** **3481**
Communications link characterization experiment

Period	*Obligations*	
09/08/75-12/08/76	FY76: $74,000	TOTAL: $74,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Straiton, A. W.	GSFC/Hirschmann, E.	45-Elec Engr

NAS 6-2454 **University of Texas - Austin** **3482**
GEOS-C research into solid earth dynamics

Period	*Obligations*	
03/15/74-03/14/77	FY76: $29,652	TOTAL: $90,552
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tapley, B. D. Schutz, B. E.	WFC/Stanley, H. R. WFC/Rossi, L. C.	32-Geological Sci

NAS 8-31459 **University of Texas - Austin** **3483**
Analysis of ultraviolet stellar spectra obtained with Skylab experiment S-019

Period	*Obligations*	
06/30/75-06/30/77	FY76: $155,000	TOTAL: $221,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Henize, K. Wray, J. D.	MSFC/Williams, J. R. MSFC/Duncan, B. J.	11-Astronomy

NAS 8-31566 **University of Texas - Austin** **3484**
TEXGAP computer program

Period	*Obligations*	
06/27/75-12/27/76	FY76:	TOTAL: $11,978
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Dunham, R. B. Beckek, E. B.	MSFC/Key, J. E. MSFC/Bianca, C. J.	21-Mathematics

NAS 9-12568 **University of Texas - Austin** **3485**
Operation, maintenance & analysis of a data storage unit

Period	*Obligations*	
05/24/72-07/31/76	FY76: $20,000	TOTAL: $107,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barnes, T. G., III	JSC/Potter, A. E.	11-Astronomy

NAS 9-13680 **University of Texas - Austin** **3486**
Assessment of real gas effects on the extrapolation of shuttle flow field phenomena to flight conditions

Period	*Obligations*	
09/27/73-12/15/76	FY76:	TOTAL: $77,476
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bertin, J. J.	JSC/Goodrich, W. D.	41-Aero Engr

NAS 9-14405 **University of Texas - Austin** **3487**
Lunar seismic profiling experiment natural activity study

Period	*Obligations*	
01/01/75-04/30/76	FY76:	TOTAL: $43,850
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Duennebier, F. D.	JSC/Eichelman, W. F.	32-Geological Sci

NAS 9-14491 **University of Texas - Austin** **3488**
Adsorption pumping, cryogenic refrigeration study

Period	*Obligations*	
02/10/75-02/17/77	FY76: $68,959	TOTAL: $118,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hartwig, W. H. Steinfink, H. Tchernev, D. I.	JSC/Richard, R. R. JSC/Nuss, R. W.	49-Engr, NEC

NAS 9-14810 **University of Texas - Austin** **3489**
Apollo lunar surface experiment package, data processing

Period	*Obligations*	
10/01/75-01/31/77	FY76: $365,775	TOTAL: $365,775
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Latham, G. V.	JSC/Eichelman, W. F.	13-Physics

NAS 9-14892 **University of Texas - Austin** **3490**
Definition of a general mathematical model

Period	*Obligations*	
01/29/76-09/30/76	FY76: $15,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Beckner, F.	JSC/Fenner, R. G.	45-Elec Engr

NGL 44-012-006 **University of Texas - Austin** **3491**
Research on millimeter wavelength radiation from solar bodies

Period	*Obligations*	
04/29/63-03/31/79	FY76: $126,190	TOTAL: $1,401,342
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cogdell, J. R.	HQ-SL/Brunk, W. E. HQ-SL/Fellows, R. F.	11-Astronomy

NGL 44-012-045 University of Texas - Austin 3492
A study of ignimbrites in the Cordilleran region as a basis for interpretation of lunar plains
Period *Obligations*
05/31/66-05/01/75 FY76: TOTAL: $147,886
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clabaugh, S. E. HQ-SM/Bryson, R. P. 32-Geological Sci
HQ-SM/Allenby, R. J.

NGL 44-012-055 University of Texas - Austin 3493
Polarization and time structure of Jovian decametric radiation and the structure of interplanetary plasma
Period *Obligations*
05/25/66-04/30/79 FY76: $59,133 TOTAL: $869,188
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Douglas, J. N. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGL 44-012-133 University of Texas - Austin 3494
General research program
Period *Obligations*
09/17/69-09/15/76 FY76: TOTAL: $66,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
McKetta, J. J. JSC/Eandi, B. K. 49-Engr, NEC

NGR 44-012-152 University of Texas - Austin 3495
A program of planetary studies
Period *Obligations*
06/25/69-08/31/76 FY76: $410,000 TOTAL: $2,405,188
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mulholland, J. D. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGR 44-012-165 University of Texas - Austin 3496
Continuation of lunar laser ranging experiments at McDonald Observatory
Period *Obligations*
10/11/69-08/31/76 FY76: $356,515 TOTAL: $2,188,761
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smith, H. J. HQ-SL/Strickland, A. T.
32-Geological Sci
HQ-SM/Shirey, W. H.

NGR 44-012-194 University of Texas - Austin 3497
Morphologic and tectonic studies of Mars from Mariner 6 and 7 photographs
Period *Obligations*
10/01/70-09/30/75 FY76: TOTAL: $40,462
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ingerson, F. E. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

NGR 44-012-209 University of Tex[illegible]ustin 3498
Study of optical properties of X-ray [illegible]
Period *Obligations*
05/26/71-08/31/77 FY76: $[illegible]944 TOTAL: $58,838
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vanden Bout, P. A. HQ-SA/Rosendhal, J. D. 11-Astronomy

NGR 44-012-219 University of Texas - Austin 3499
Lunar motion analysis (lunar laser ranging experiment)
Period *Obligations*
08/11/71-08/31/75 FY76: $4,168 TOTAL: $333,711
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mulholland, J. D. HQ-SL/Strickland, A. T. 11-Astronomy

NGR 44-012-225 University of Texas - Austin 3500
Stable carbon isotope ratio variations in blue-green algae as a function of growth conditions
Period *Obligations*
06/20/72-01/31/77 FY76: $18,000 TOTAL: $55,916
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Parker, P. L. HQ-SL/Young, R. S. 32-Geological Sci
Van Baalen, C.

NGR 44-012-240 University of Texas - Austin 3501
Josephson junction detector system for studies of the spectra of Jupiter and Venus
Period *Obligations*
02/15/73-09/01/76 FY76: TOTAL: $9,991
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ulrich, B. T. ARC/Mason, R. H. 11-Astronomy

NGR 44-012-258 University of Texas - Austin 3502
Stark broadening of heavy neutral atoms and ions
Period *Obligations*
00/00/00-12/31/76 FY76: $5,000 TOTAL: $27,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bengtson, P. D. HQ-ST/Timothy, A. F. 11-Astronomy

NGR 44-012-260 University of Texas - Austin 3503
High resolution spectrograph for the large space telescope
Period *Obligations*
10/01/73-02/29/76 FY76: $2,762 TOTAL: $15,813
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tull, R. G. GSFC/Sobieski, S. 11-Astronomy
GSFC/Meese, K. J.

NGR 44-012-261 University of Texas - Austin 3504
Low resolution spectrograph for the large space telescope
Period *Obligations*
10/01/73-11/30/75 FY76: TOTAL: $6,996
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Nather, R. E. GSFC/Sobieski, S. 11-Astronomy
GSFC/Meese, K. J.

NGR 44-012-269 University of Texas - Austin 3505
Development of efficient methods for satellite determination and prediction
Period *Obligations*
09/17/73-09/16/75 FY76: TOTAL: $81,370
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tapley, B. D. GSFC/Fuchs, A. J. 49-Engr, NEC
Nacozy, P. E. GSFC/Velez, C. E.
Schutz, B. E.

NGR 44-012-279 **University of Texas - Austin** **3506**
Atlas of Mariner 9 albedo charts of Mars
Period *Obligations*
07/01/73-06/30/75 FY76: TOTAL: $45,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Devaucouleurs, G. H. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Allingham, J. W.

NGR 44-012-282 **University of Texas - Austin** **3507**
Outer planet satellite studies
Period *Obligations*
09/01/73-08/31/76 FY76: $49,960 TOTAL: $127,823
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Trafton, L. M. HQ-SL/Brunk, W. E. 11-Astronomy
HQ-SL/Fellows, R. F.

NGR 44-012-283 **University of Texas - Austin** **3508**
Precision orbit determination for near-earth satellites
Period *Obligations*
01/14/74-04/30/77 FY76: $30,600 TOTAL: $84,410
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tapley, B. D. GSFC/Kolenkiewicz, R.
32-Geological Sci
Schutz, B. E. GSFC/Smith, D. E.

NSG 1268 **University of Texas - Austin** **3509**
Free-interface methods for substructure coupling
Period *Obligations*
01/01/76-03/31/77 FY76: $23,840 TOTAL: $23,840
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Craig, R. R. LERC/Fralich, R. W. 49-Engr, NEC
LERC/Pinson, L. D.

NSG 2065 **University of Texas - Austin** **3510**
Antecedents of achievement and creativity
Period *Obligations*
02/01/75-01/31/77 FY76: $30,000 TOTAL: $69,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Helmreich, R. L. ARC/Tanner, T. A. 69-Psych, NEC

NSG 2101 **University of Texas - Austin** **3511**
Exact solutions of potential flows related to flight vehicles
Period *Obligations*
09/15/75-09/14/76 FY76: $28,115 TOTAL: $28,115
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Summa, J. M. ARC/Medan, R. T. 41-Aero Engr

NSG 3089 **University of Texas - Austin** **3512**
Plasma fluctuation diagnostic tool for the bumpy Torus experiment
Period *Obligations*
11/17/75-11/16/76 FY76: $30,000 TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Powers, E. J. LERC/Roth, J. R. 45-Elec Engr

NSG 5005 **University of Texas - Austin** **3513**
Observations of emission lines in m supergiants
Period *Obligations*
05/01/74-12/31/76 FY76: TOTAL: $20,778
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lambert, D. L. GSFC/Kupperian, J. E. 11-Astronomy

NSG 5031 **University of Texas - Austin** **3514**
Investigation of chlorine abundances in early-type stars
Period *Obligations*
11/01/74-10/31/75 FY76: TOTAL: $1,435
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Parsons, S. B. GSFC/Kupperian, J. E. 11-Astronomy

NSG 5115 **University of Texas - Austin** **3515**
Study of Jupiter's ultraviolet ammonia absorption
Period *Obligations*
07/01/76-06/30/77 FY76: $2,350 TOTAL: $2,350
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smith, H. J. GSFC/Kupperian, J. E. 11-Astronomy

NSG 7159 **University of Texas - Austin** **3516**
Preliminary geophysical and geological site survey of the region of the McDonald Observatory
Period *Obligations*
09/08/75-03/08/76 FY76: $22,640 TOTAL: $22,640
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Latham, G. V. HQ-SL/Strickland, A. T.
19-Phys Sci, NEC
Dorman, J.

NSG 7162 **University of Texas - Austin** **3517**
Lunar laser data identification and management
Period *Obligations*
09/01/75-08/31/76 FY76: $60,892 TOTAL: $60,892
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Shelus, P. J. HQ-SL/Shirey, W. H. 19-Phys Sci, NEC

NSG 7232 **University of Texas - Austin** **3518**
Astrophysics of supermassive accretion disks
Period *Obligations*
05/01/76-04/30/77 FY76: $16,606 TOTAL: $16,606
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Wheeler, J. C. HQ-SA/Roman, N. G. 11-Astronomy
HQ-SA/Rosendhal, J. D.

NSG 7250 **University of Texas - Austin** **3519**
Late cenozoic tectonic history in the region of the McDonald Observatory, Trans-Pecos, Texas
Period *Obligations*
07/01/76-06/30/77 FY76: $18,962 TOTAL: $18,962
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Muehlberger, W. R. HQ-SL/Smith, M. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 9021 **University of Texas - Austin** **3520**

Origin of magnetization in lunar breccias and its bearing on their formation

Period	*Obligations*	
02/01/75-01/31/77	FY76: $27,800	TOTAL: $51,425

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gose, W. A.	JSC/Harris, J. W.	32-Geological Sci

NAS 1-9699 **University of Texas - Dallas** **3521**

Participation in the science planning for the Viking 1975 missions in the area of entry science

Period	*Obligations*	
04/08/70-03/31/77	FY76: $37,318	TOTAL: $197,318

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hanson, W. B.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	99-Multi-Discip

NAS 2-8802 **University of Texas - Dallas** **3522**

Pioneer/Venus neutral mass spectrometer

Period	*Obligations*	
05/12/75-08/31/78	FY76: $1,310,000	TOTAL: $1,550,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoffman, J. H.	ARC/Hall, C. F.	31-Atmos Sci
York, D. R.	ARC/Polaski, L. R.	

NAS 5-11406 **University of Texas - Dallas** **3523**

Atmosphere Explorer magnetic ion mass spectrometer

Period	*Obligations*	
04/06/71-09/30/77	FY76: $188,000	TOTAL: $1,052,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoffman, J. H.	GSFC/Corrigan, J. P.	31-Atmos Sci

NAS 5-11407 **University of Texas - Dallas** **3524**

Planar ion trap experiment

Period	*Obligations*	
04/06/71-11/19/77	FY76: $204,000	TOTAL: $1,166,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hanson, W. B.	GSFC/Corrigan, J. P.	31-Atmos Sci
Sanatani, S.		

NAS 8-31775 **University of Texas - Dallas** **3525**

Study of ATS 6 and OGO 5 data analysis

Period	*Obligations*	
03/18/76-09/18/76	FY76: $5,920	TOTAL: $5,920

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hanson, W. B.	MSFC/Chappell, C. R.	19-Phys Sci, NEC
Hoffman, J. H.	MSFC/Jlburch, J. L.	

NAS 9-12074 **University of Texas - Dallas** **3526**

Scientific support of the lunar atmospheric mass spectrometer

Period	*Obligations*	
08/26/71-09/30/75	FY76:	TOTAL: $468,848

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hoffman, J. H.	JSC/Eichelman, W. F.	19-Phys Sci, NEC

NAS 9-13512 **University of Texas - Dallas** **3527**

Development of a mathematical technique for analysis of remote sensing data

Period	*Obligations*	
05/31/73-08/31/76	FY76: $20,000	TOTAL: $174,995

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Odell, P. L.	JSC/Baker, K. JSC/Potter, A. E.	21-Mathematics

NGL 44-004-001 **University of Texas - Dallas** **3528**

Research in earth and planetary sciences, including development of advanced scientific experiments in lunar, planetary and space exploration

Period	*Obligations*	
05/28/62-03/01/75	FY76:	TOTAL: $6,441,277

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, F. S.	HQ-SL/Fellows, R. F.	31-Atmos Sci
Hanson, W. B.	HQ-SL/Hipsher, H. F.	

NGL 44-004-026 **University of Texas - Dallas** **3529**

Investigations into the mechanism and rates of atmospheric mixing in the lower thermosphere

Period	*Obligations*	
05/05/65-03/31/79	FY76: $200,000	TOTAL: $1,973,751

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, F. S.	HQ-SL/Fellows, R. F. HQ-SL/Brunk, W. E.	31-Atmos Sci

NGL 44-004-130 **University of Texas - Dallas** **3530**

Selected studies in the space sciences

Period	*Obligations*	
03/17/72-03/31/79	FY76: $200,000	TOTAL: $1,000,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, F. S.	HQ-P/Carter, C. H.	99-Multi-Discip

NGR 44-004-030 **University of Texas - Dallas** **3531**

Study of electron collision frequency under ionospheric conditions

Period	*Obligations*	
05/05/65-12/31/76	FY76: $15,000	TOTAL: $580,765

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Heikkila, W. J.	HQ-ST/Cauffman, D. P. HQ-ST/Schmerling, E. R.	13-Physics

NGR 44-004-120 **University of Texas - Dallas** **3532**

Rocket probes for the upper F-region

Period	*Obligations*	
02/09/71-01/31/77	FY76: $90,000	TOTAL: $805,000

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hanson, W. B.	HQ-ST/Taylor, W. W. HQ-ST/Schmerling, E. R.	31-Atmos Sci

TEXAS (Continued)

NGR 44-004-124 University of Texas - Dallas 3533
Rocket investigation of auroral zone disturbances
Period *Obligations*
08/10/71-10/31/76 FY76: $141,466 TOTAL: $661,466
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Heikkila, W. J. GSFC/Bissell, E. E., Jr. 13-Physics
Winningham, J. D.
Umper, K. L.

NGR 44-004-133 University of Texas - Dallas 3534
Comparison of solar cosmic ray anisotropics and interplanetary magnetic field data
Period *Obligations*
04/23/73-08/31/75 FY76: TOTAL: $66,852
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Allum, F. R. HQ-SA/Opp, A. G. 11-Astronomy

NGR 44-004-142 University of Texas - Dallas 3535
Comparison of OGO-4 ultraviolet and visible nightglow data with computer models
Period *Obligations*
07/01/73-02/29/76 FY76: TOTAL: $38,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tinsley, B. A. HQ-ST/Schmerling, E. R.
19-Phys Sci, NEC

NGR 44-004-150 University of Texas - Dallas 3536
Data analysis for ISIS soft-particle spectrometer
Period *Obligations*
03/15/73-09/30/75 FY76: TOTAL: $135,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Heikkila, W. J. HQ-ST/Schmerling, E. R. 31-Atmos Sci

NSG 5085 University of Texas - Dallas 3537
Particle spectrometer on board ISIS-2
Period *Obligations*
11/01/75-10/31/76 FY76: $50,000 TOTAL: $50,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Heikkila, W. J. GSFC/Brace, L. H. 31-Atmos Sci
Winningham, J. D.
Umpar, K. L.

NSG 5087 University of Texas - Dallas 3538
Ion composition research on ISIS-2
Period *Obligations*
12/01/75-11/30/76 FY76: $30,000 TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hoffman, J. H. GSFC/Brace, L. H. 31-Atmos Sci

NSG 7034 University of Texas - Dallas 3539
Investigation of the daytime lunar atmosphere for lunar synthesis program
Period *Obligations*
04/01/74-03/31/77 FY76: $50,000 TOTAL: $133,011
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hodges, R. R., Jr. HQ-SL/Williams, R. J. 31-Atmos Sci
HQ-SL/Flinn, E. A.

NSG 7107 University of Texas - Dallas 3540
ISIS-2 ion mass spectrometer data analysis and interpretation study
Period *Obligations*
12/01/74-11/30/75 FY76: TOTAL: $30,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hoffman, J. H. HQ-ST/Schmerling, E. R. 31-Atmos Sci

NSR 44-004-041 University of Texas - Dallas 3541
Development of payloads for systemic study of auroral zone disturbances
Period *Obligations*
06/03/66-11/11/74 FY76: TOTAL: $1,310,852
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Heikkila, W. J. HQ-ST/Schmerling, E. R. 13-Physics

NSR 44-004-089 University of Texas - Dallas 3542
Analysis of data from the ion mass spectrometer on the Explorer XXXI satellite
Period *Obligations*
10/02/68-11/08/74 FY76: TOTAL: $112,036
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hoffman, J. H. HQ-SA/Berko, F. W. 13-Physics
HQ-SA/Schmerling, E. R.

NGT 44-085-750 University of Texas - El Paso 3543
Training of undergraduate students in sciences and engineering
Period *Obligations*
06/01/75-05/31/77 FY76: $7,000 TOTAL: $14,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Guard, R. W. HQ-P/Pohly, J. G. 49-Engr, NEC

NAS 9-13102 Univ of Texas Medical Branch - Galveston 3544
Blood studies
Period *Obligations*
06/30/72-06/30/76 FY76: TOTAL: $80,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Lockhart, L. H. JSC/Kimzey, S. L. 53-Other Medical

NAS 9-14641 Univ of Texas Medical Branch - Galveston 3545
Analysis of spontaneous vestibular primary afferent discharge following application of drugs
Period *Obligations*
05/01/75-04/30/77 FY76: $30,000 TOTAL: $44,973
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Correia, M. J. JSC/Reschke, M. F. 69-Psych, NEC

NGR 44-088-002 Univ of Texas Medical Branch - Galveston 3546
Mechanisms of cerebral blood flow changes during acceleration stress
Period *Obligations*
10/13/71-10/31/76 FY76: $34,906 TOTAL: $151,792
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Stone, H. L. ARC/Sandler, H. 52-Clinical Med

TEXAS (Continued)

NSG 9026 **University of Texas Health Center - Dallas** **3547**
Cardiovascular effect of variations in habitual levels of physical activity

Period	Obligations	
03/01/75-02/28/77	FY76: $60,700	TOTAL: $121,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Blomquist, C. G. Mitchell, J. H.	JSC/Hoffler, G. W.	52-Clinical Med

NGR 44-094-003 **Univ of Texas Health Center - San Antonio** **3548**
Role of systemic & renal hemodynamics

Period	Obligations	
08/01/73-12/31/76	FY76:	TOTAL: $130,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Earley, L. E.	JSC/Hoffler, G. W.	53-Other Medical

NGL 44-084-003 **Univ of Texas-Health Science Center** **3549**
Remote sensing utility in a disaster-struck area

Period	Obligations	
09/01/73-11/30/76	FY76:	TOTAL: $100,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rush, M.	HQ-P/Vitale, J. A. JSC/Kennedy, E. E.	59-Life Sci, NEC

NGR 44-015-003 **West Texas State University** **3550**
Geology of mare Acidalium quadrangle MO-4 on Mars

Period	Obligations	
04/25/73-03/31/76	FY76: $8,420	TOTAL: $28,920
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Underwood, J. R.	HQ-SL/Dwornik, S. E. HQ-SL/Holt, H. E.	32-Geological Sci

UTAH

NAS 2-7358 **Brigham Young University** **3551**
Analysis of Pioneer F & G solar terrestrial relationship data

Period	Obligations	
00/00/00-09/30/77	FY76: $12,000	TOTAL: $46,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jones, D. E.	ARC/Hall, C. F. ARC/Porter, D. L.	13-Physics

NAS 9-14499 **Brigham Young University** **3552**
Study scanning electron microscopy glass particles produced by lava fountain eruptions

Period	Obligations	
01/01/75-06/30/77	FY76: $10,900	TOTAL: $33,650
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Laole, G. H.	JSC/Phinney, W. C.	32-Geological Sci

NGR 45-001-011 **Brigham Young University** **3553**
Analysis and interpretation of magnetic field measurements between Earth and Mars received from Mariner IV

Period	Obligations	
05/10/65-09/30/76	FY76:	TOTAL: $206,571
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jones, D. E.	HQ-ST/Cauffman, D. P.	39-Env Sci, NEC

NGR 45-001-032 **Brigham Young University** **3554**
Microwave studies of planetary atmospheres

Period	Obligations	
06/05/70-08/31/75	FY76:	TOTAL: $16,100
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jones, D. E.	HQ-SL/Brunk, W. E.	11-Astronomy

NGR 45-001-040 **Brigham Young University** **3555**
Studies of lunar magnetism & interplanetary plasma discontinuities

Period	Obligations	
11/21/73-11/20/76	FY76:	TOTAL: $48,904
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jones, D. E. Daily, W. D.	ARC/Dyal, P. ARC/Witteborn, F. C.	13-Physics

NSG 3068 **Brigham Young University** **3556**
Microwave diagnostic instrumentation for steady state plasma

Period	Obligations	
01/01/75-12/31/76	FY76: $2,000	TOTAL: $13,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gardner, A. L.	LERC/Roth, J. R. LERC/Seikel, G. R.	13-Physics

NAS 1-12705 **University of Utah** **3557**
Science planning for the Viking 1975 missions in the area of physical properties

Period	Obligations	
01/14/74-03/31/77	FY76: $12,365	TOTAL: $101,704
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shorthill, R. W.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	19-Phys Sci, NEC

NAS 5-20955 **University of Utah** **3558**
ERTS data follow-on investigation

Period	Obligations	
03/13/75-10/13/76	FY76: $35,000	TOTAL: $100,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nackowski, M.	GSFC/Broderick, J. C.	32-Geological Sci

NAS 6-2498 **University of Utah** **3559**
Upper atmospheric physical and dynamic processes

Period	Obligations	
04/26/74-04/25/76	FY76: $3,409	TOTAL: $51,009
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kao, S. K.	WFC/Duke, J. R.	31-Atmos Sci

NAS 6-2627 University of Utah 3560

Rocketsonde data processing and participation in the meteorological rocket/Nimbus satellite data comparison project

Period	*Obligations*	
03/21/75-08/22/76	FY76: $45,000	TOTAL: $85,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Staffanson, F. L.	WFC/Duke, J. R. WFC/Schmidlin, F. J.	31-Atmos Sci

NAS 8-30253 University of Utah 3561

Preparation and investigation of methacrylate hydrogels for zeta potential control

Period	*Obligations*	
11/15/73-12/14/75	FY76:	TOTAL: $101,020
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Andrade, J. D.	MSFC/Patterson, W. J. MSFC/Allen, R. E.	12-Chemistry

NAS 9-14809 University of Utah 3562

Toxicity of combustion products of polymeric aircraft materials

Period	*Obligations*	
10/10/75-06/01/76	FY76: $45,997	TOTAL: $45,997
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baldwin, R. C.	JSC/Kaplan, H. L.	59-Life Sci, NEC

NASW 2648 University of Utah 3563

Studying the earth from space

Period	*Obligations*	
05/21/74-12/05/75	FY76:	TOTAL: $15,054
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ridd, M. K. McCoy, R. M.	HQ-FE/Tuttle, F. B. HQ-FE/Ahrendt, M. H.	39-Env Sci, NEC

NCA 2-821601 University of Utah 3564

Bio-telemetry systems in calves with artificial hearts

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $1,035
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smith, L. M. Olsen, D. B.	ARC/Zill, L. P.	51-Biology

NGL 45-003-025 University of Utah 3565

Investigation of meteorological measurement techniques up to 100 kilometers

Period	*Obligations*	
12/15/65-11/30/76	FY76:	TOTAL: $649,727
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weil, H. Senior, T. B.	LARC/Hardesty, C. A.	31-Atmos Sci

NGL 45-003-037 University of Utah 3566

Paramagnetic resonance effect in viscoelastic materials

Period	*Obligations*	
01/20/67-06/08/74	FY76:	TOTAL: $156,194
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Devries, K. L.	HQ-RP/Wasel, R. A.	46-Mech Engr

NGR 45-003-095 University of Utah 3567

Analysis of the geologic cycle of Mars

Period	*Obligations*	
06/29/72-08/31/76	FY76:	TOTAL: $40,412
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wilson, R. C. Picard, M. D.	HQ-SL/Dwornik, S. E.	32-Geological Sci

NGR 45-003-108 University of Utah 3568

Applications of computer speech recognition in flight management

Period	*Obligations*	
11/01/73-09/30/76	FY76: $16,980	TOTAL: $45,809
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Plummer, R. P.	ARC/Coler, C. R.	45-Elec Engr

NSG 1272 University of Utah 3569

An investigation of the relationship between annoyance and the duration of aircraft flyovers

Period	*Obligations*	
02/01/76-01/31/77	FY76: $37,127	TOTAL: $37,127
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shepherd, K. P.	LARC/Lawton, B. W.	39-Env Sci, NEC

NSG 7090 University of Utah 3570

Lunar data synthesis

Period	*Obligations*	
07/01/74-06/30/76	FY76:	TOTAL: $102,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ward, S. H.	HQ-SM/Bryson, R. P. HQ-SM/Roberson, F. I.	32-Geological Sci

NSG 7226 University of Utah 3571

Identifying environmental features for land management decisions

Period	*Obligations*	
08/01/76-07/31/79	FY76: $250,000	TOTAL: $250,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ridd, M. K.	HQ-P/Vitale, J. A.	39-Env Sci, NEC

NSG 9024 University of Utah 3572

Origin, evolution, and crystallization of lunar magmas

Period	*Obligations*	
02/01/75-07/31/76	FY76:	TOTAL: $30,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nash, W. P.	JSC/Harris, J. W.	32-Geological Sci

NAS 2-8108 Utah State University 3573

Gas for stratospheric sampling program

Period	*Obligations*	
02/01/74-01/31/76	FY76: $11,906	TOTAL: $29,164
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Shaw, A. W.	ARC/Lowenstein, M. ARC/Savage, H. F.	31-Atmos Sci

UTAH (Continued)

NAS 9-14871 **Utah State University** **3574**

Higher plant response to elevated ultraviolet irradiance

Period	*Obligations*	
10/08/75-10/08/76	FY76: $60,000	TOTAL: $60,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Caldwell, M. M.	JSC/Nachtwey, D. S.	51-Biology

NCA 2-820501 **Utah State University** **3575**

Application of linear quadratic techniques to problems of reliability

Period	*Obligations*	
09/09/74-09/01/75	FY76:	TOTAL: $14,075
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Martin, C. F.	ARC/Zill, L. P.	21-Mathematics

NSG 7038 **Utah State University** **3576**

The diagenesis of geologically important organic matter and amino acids under simulated natural conditions

Period	*Obligations*	
06/01/74-05/31/77	FY76: $72,000	TOTAL: $167,352
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Swanson, L. W.	HQ-SB/Young, R. S.	32-Geological Sci
McNeely, D. R.		

NSG 7206 **Utah State University** **3577**

Mass spectrometric study of chlorinated species by negative surface ionization

Period	*Obligations*	
03/15/76-09/15/76	FY76: $26,920	TOTAL: $26,920
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moore, W. M.	HQ-SU/King, J., Jr.	12-Chemistry
McCullough, E. A., Jr.	HQ-SU/Reed, E. F.	

NSG 7210 **Utah State University** **3578**

Stratospheric monitoring with longterm balloon flights

Period	*Obligations*	
03/01/76-02/28/77	FY76: $124,093	TOTAL: $124,093
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Baker, K. D.	HQ-SU/King, J., Jr.	31-Atmos Sci
Williamson, P. R.	HQ-SU/Reed, E. F.	
Aw, S. H.		

VERMONT

NSG 7021 **University of Vermont** **3579**

Chemical evolution of aminolevulinic acid

Period	*Obligations*	
07/01/74-06/30/75	FY76:	TOTAL: $18,785
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Thanassi, J. W.	HQ-SB/Young, R. S.	12-Chemistry

VIRGINIA

NAS 1-13423 **Christopher Newport College** **3580**

Quality of control checks of VGH records

Period	*Obligations*	
07/01/74-06/30/75	FY76:	TOTAL: $24,049
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roby, A. B.	LARC/Morris, G. J.	41-Aero Engr
	LARC/Jewel, J. W., Jr.	

NAS 1-13913 **Christopher Newport College** **3581**

Quality control, wide-body jet transport VGH records

Period	*Obligations*	
05/05/75-01/01/77	FY76: $13,887	TOTAL: $46,887
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	LARC/Jewel, J. W., Jr.	41-Aero Engr

NAS 1-14034 **Christopher Newport College** **3582**

Quality control checks for VGH records

Period	*Obligations*	
07/01/75-09/30/76	FY76:	TOTAL: $20,781
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roby, A. B.	LARC/Morris, G. J.	41-Aero Engr
	LARC/Jewel, J. W., Jr.	

NAS 1-11958 **College of William And Mary** **3583**

Research in the physical and life sciences

Period	*Obligations*	
10/12/72-04/11/77	FY76: $44,394	TOTAL: $332,911
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Aceto, H., Jr.	LARC/Martin, D. J.	99-Multi-Discip

NGL 47-006-058 **College of William And Mary** **3584**

Research in the applied science program

Period	*Obligations*	
08/15/72-08/31/78	FY76: $50,000	TOTAL: $348,400
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rubiein, G. T.	LARC/Anderson, A. F.	99-Multi-Discip

NGR 47-006-054 **College of William And Mary** **3585**

Space-related mammalian radiology studies

Period	*Obligations*	
02/01/72-06/30/76	FY76:	TOTAL: $413,905
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Aceto, H., Jr.	JSC/Hoffman, R. A.	51-Biology

NSG 1089 **College of William And Mary** **3586**

Theory of the properties of materials used in solid state sensors

Period	*Obligations*	
09/01/74-08/31/77	FY76: $27,247	TOTAL: $72,577
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Moriarity, J. A.	LARC/Breckenridge, R. A.	13-Physics
Sher, A.	LARC/Crouch, R. K.	

VIRGINIA (Continued)

NSG 1095 College of William And Mary 3587
Molecular weight-property relationships of high performance polymers used for adhesives and composites
Period *Obligations*
09/01/74-11/30/76 FY76: $14,990 TOTAL: $29,803
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kranbuehl, D. E. LARC/Young, P. R. 12-Chemistry

NSG 1203 College of William And Mary 3588
Analysis of remote sensors for pollution
Period *Obligations*
08/01/75-07/31/77 FY76: $28,719 TOTAL: $53,822
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Park, J. H. LARC/Russell, J. M., III 31-Atmos Sci
LARC/Davis, R. E.

NSG 1204 College of William And Mary 3589
Chemistry of the system: Al203(C)-HClAg
Period *Obligations*
06/15/75-06/14/77 FY76: $23,243 TOTAL: $46,237
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tyree, S. Y., Jr. LARC/Cofer, W. R., III 12-Chemistry

NSG 7073 College of William And Mary 3590
The response of hematopoietic stem cells to different linear energy transfer distribution of helium ion beams
Period *Obligations*
05/23/74-12/31/75 FY76: TOTAL: $20,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Aceto, H., Jr. HQ-SB/Jones, W. L. 59-Life Sci, NEC

NAS 6-2707 Eastern Shore Community College 3591
Informing general public and schools of activities of Wallops Flight Center
Period *Obligations*
01/01/76-12/31/76 FY76: $11,486 TOTAL: $11,486
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Unavailable WFC/Milliner, J. B. 99-Multi-Discip

NAS 1-12445 Hampton Institute 3592
Conversion of government owned VGH flight records into numerical tabulations for FY 74
Period *Obligations*
05/30/73-06/30/76 FY76: $11,126 TOTAL: $105,684
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Williams, G. K. LARC/Jewel, J. W., Jr. 41-Aero Engr

NAS 1-14507 Hampton Institute 3593
Conversion of flight records
Period *Obligations*
07/01/76-09/30/77 FY76: $34,688 TOTAL: $34,688
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Williams, G. K. LARC/Jewel, J. W., Jr. 41-Aero Engr
LARC/Morris, G. J.

NCA 1-1 Hampton Institute 3594
Summer faculty fellowship training program
Period *Obligations*
06/14/76-12/13/76 FY76: $26,134 TOTAL: $26,134
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Darden, G. C. LARC/Anderson, A. F. 49-Engr, NEC

NGR 47-020-006 Hampton Institute 3595
Fast optical pulse recording system for laser ranging
Period *Obligations*
12/01/73-01/31/77 FY76: $36,194 TOTAL: $77,949
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Trehan, A. K. WFC/Kim, H. H. 19-Phys Sci, NEC
WFC/Parsons, C. L.

NGR 47-020-008 Hampton Institute 3596
Mossbauer effect and its application in material research
Period *Obligations*
01/01/74-06/30/76 FY76: TOTAL: $45,187
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Han, K. S. LARC/Singh, J. J. 13-Physics

NSG 1011 Hampton Institute 3597
Factors affecting aircraft ride quality: The effects of noise, motion, and the individual
Period *Obligations*
04/01/74-06/30/76 FY76: TOTAL: $103,104
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Duncan, N. C. LARC/Catherines, J. J. 69-Psych, NEC
Conley, H. W. LARC/Mixson, J. S.

NSG 1086 Hampton Institute 3598
High temperature kinetics studies of combustion processes by the shock tube technique
Period *Obligations*
08/01/74-06/30/77 FY76: TOTAL: $31,506
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hunter, C. E. LARC/Jachimowski, C. J. 12-Chemistry

NSG 1146 Hampton Institute 3599
Design and fabrication of a high resolution CRT/interface system
Period *Obligations*
02/03/75-06/15/76 FY76: $6,141 TOTAL: $22,303
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Trehan, A. K. LARC/Katzberg, S. J. 45-Elec Engr

NSG 1294 Hampton Institute 3600
Investigation of microprocessors as mass storage controllers for flight applications
Period *Obligations*
04/01/76-03/31/77 FY76: $31,487 TOTAL: $31,487
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Trehan, A. K. LARC/Katzberg, S. J. 45-Elec Engr

NSG 1209 **Mary Baldwin College** **3601**
Faculty and student research participation in applied statistics at NASA/LRC

Period	*Obligations*	
07/01/75-08/31/76	FY76:	TOTAL: $7,904
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sawyer, J. O.	LARC/Campbell, J. W.	21-Mathematics

NSG 1014 **Norfolk State College** **3602**
Numerical computations research

Period	*Obligations*	
04/01/74-06/30/77	FY76: $25,558	TOTAL: $83,933
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Boseman, M.	LARC/Shoosmith, J. N.	21-Mathematics

NSG 1074 **Norfolk State College** **3603**
Comfort judgements as a function of passenger and noise and vibration encountered on urban mass transit vehicles

Period	*Obligations*	
07/01/74-06/30/76	FY76: $30,000	TOTAL: $73,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Colegate, R. L. Colson, W. N.	LARC/Dempsey, T.K. LARC/Leatherwood, J. D.	59-Life Sci, NEC

NAS 1-9434 **Old Dominion University** **3604**
Research in physical and engineering sciences

Period	*Obligations*	
07/23/69-06/01/75	FY76:	TOTAL: $828,554
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ousterhout, D. S.	LARC/Martin, D. J.	99-Multi-Discip

NAS 1-11707 **Old Dominion University** **3605**
Research in physical and life sciences

Period	*Obligations*	
07/24/72-08/31/75	FY76:	TOTAL: $1,081,710
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ousterhout, D. S.	LARC/Martin, D. J.	49-Engr, NEC

NAS 1-13820 **Old Dominion University** **3606**
Program to simulate Raman scattering spectra of super combustion produced flows

Period	*Obligations*	
02/26/75-05/14/76	FY76:	TOTAL: $20,494
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bandy, A. R.	LARC/Hillard, M. E., Jr. LARC/Hunter, W. W., Jr.	13-Physics

NAS 1-14193 **Old Dominion University** **3607**
Research in physical and life sciences

Period	*Obligations*	
10/01/75-09/30/77	FY76: $205,551	TOTAL: $205,551
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kuo, C. Y. Blair, C. H.	LARC/Whitlock, C. H.	99-Multi-Discip

NGL 47-003-008 **Old Dominion University** **3608**
Studies in heterocyclic synthesis

Period	*Obligations*	
07/05/67-08/16/76	FY76:	TOTAL: $198,333
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Williams, R. L.	LARC/Johnston, N. J. LARC/Bell, V. L., Jr.	12-Chemistry

NGL 47-003-012 **Old Dominion University** **3609**
Theoretical description of soil-tire interaction under moving wheel of aircraft

Period	*Obligations*	
05/15/68-12/31/74	FY76: $8	TOTAL: $139,968
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cheng, R.	LARC/Leland, T. J.	44-Civil Engr

NGL 47-003-039 **Old Dominion University** **3610**
Analysis of a cold jet on bodies of revolution in a subsonic free stream

Period	*Obligations*	
10/30/70-11/30/76	FY76:	TOTAL: $114,463
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ousterhout, D. S.	LARC/Gentry, G. L., Jr. LARC/Margason, R. J.	41-Aero Engr

NGL 47-003-067 **Old Dominion University** **3611**
Interdisciplinary investigation of atmospheric processes and constituents of the mid-Atlantic coastal region

Period	*Obligations*	
05/10/72-05/31/77	FY76:	TOTAL: $300,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kindle, E. C.	HQ-P/Vitale, J. A. WFC/Krieger, R. L.	31-Atmos Sci

NGR 47-003-043 **Old Dominion University** **3612**
Investigation of sources of errors in low density gas structure measurements

Period	*Obligations*	
09/18/70-02/29/76	FY76: $24,950	TOTAL: $262,676
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brock, F. J. Cox, J. L.	LARC/Outlaw, R. A. LARC/Melfi, L. T., Jr.	13-Physics

NGR 47-003-048 **Old Dominion University** **3613**
Exciton coupling in molecular crystals

Period	*Obligations*	
03/08/71-07/31/76	FY76:	TOTAL: $44,394
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ake, R. L.	LARC/Phillips, D. H.	13-Physics

NGR 47-003-052 **Old Dominion University** **3614**
Graduate research program in aeronautics and air transportation

Period	*Obligations*	
05/12/71-08/31/78	FY76: $40,700	TOTAL: $470,315
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Roberts, A. S., Jr.	LARC/Anderson, A. F.	41-Aero Engr

VIRGINIA (Continued)

NGR 47-003-068 **Old Dominion University** **3615**
Aerosol studies
Period *Obligations*
12/11/72-10/31/75 FY76: TOTAL: $102,064
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harris, F. S., Jr. LARC/Crumbly, K. H. 31-Atmos Sci
Kindle, E. C. LARC/McCormick, M. P.

NGR 47-003-078 **Old Dominion University** **3616**
Heavy-heavey nuclear reactions
Period *Obligations*
01/30/73-06/30/76 FY76: TOTAL: $52,147
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Khandelwal, G. S. LARC/Wilson, J. W. 13-Physics

NGR 47-003-082 **Old Dominion University** **3617**
Optimum geometric configuration of space shuttle materials laboratory
Period *Obligations*
03/16/73-09/30/76 FY76: TOTAL: $253,660
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Clay, F. P., Jr. LARC/Melfi, L. T., Jr. 31-Atmos Sci
Heuser, J. E. LARC/Outlaw, R. A.

NGT 47-003-028 **Old Dominion University** **3618**
Summer faculty fellowship program in engineering systems design
Period *Obligations*
11/14/69-03/31/77 FY76: $106,685 TOTAL: $670,061
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goglia, G. L. HQ-P/Carter, C. H. 49-Engr, NEC

NGT 47-003-029 **Old Dominion University** **3619**
Summer faculty fellowship program in research
Period *Obligations*
11/14/69-03/31/77 FY76: $115,587 TOTAL: $758,801
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goglia, G. L. HQ-P/Carter, C. H. 49-Engr, NEC

NSG 1022 **Old Dominion University** **3620**
X-ray emission from high temperature plasmas
Period *Obligations*
05/01/74-06/30/77 FY76: $12,466 TOTAL: $36,466
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harries, W. L. LARC/Hohl, F. 13-Physics

NSG 1028 **Old Dominion University** **3621**
Collection, reduction, and interpretation of measurements
Period *Obligations*
04/01/74-05/31/77 FY76: $118,819 TOTAL: $183,767
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goglia, G. L. LARC/Keating, G. M. 31-Atmos Sci

NSG 1039 **Old Dominion University** **3622**
High temperature wideband pressure transducer
Period *Obligations*
09/01/74-02/28/77 FY76: $39,989 TOTAL: $74,439
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Zuckerwar, A. J. LARC/Holmes, H. K. 49-Engr, NEC
LARC/Mixson, J. S.

NSG 1040 **Old Dominion University** **3623**
Computer simulation of plasma and n-body problems
Period *Obligations*
06/01/74-12/31/76 FY76: $8,197 TOTAL: $43,069
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Harries, W. L. LARC/Hohl, F. 19-Phys Sci, NEC

NSG 1055 **Old Dominion University** **3624**
Dosimeter for distributed body organs
Period *Obligations*
06/01/74-06/30/77 FY76: TOTAL: $29,804
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Khandelwal, G. S. LARC/Wilson, J. W. 19-Phys Sci, NEC

NSG 1060 **Old Dominion University** **3625**
Active optical pollution sensors development
Period *Obligations*
06/01/74-09/30/76 FY76: $48,011 TOTAL: $131,878
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kindle, E. C. LARC/Remsberg, E. E. 31-Atmos Sci
Blais, R. N. LARC/Northam, G. B.

NSG 1079 **Old Dominion University** **3626**
Optimal adaptive wind tunnel control
Period *Obligations*
09/01/74-10/31/76 FY76: $19,000 TOTAL: $52,200
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tcheng, P. L. LARC/Tripp, J. S. 45-Elec Engr

NSG 1087 **Old Dominion University** **3627**
Turbulence closure modeling for high Mach number turbulent shear flows
Period *Obligations*
08/01/74-11/30/76 FY76: $32,110 TOTAL: $61,170
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Goglia, G. L. LARC/Hefner, J. N. 41-Aero Engr
Oh, Y. H.

NSG 1098 **Old Dominion University** **3628**
Investigation of nozzle afterbody viscous interaction effects by finite element methods
Period *Obligations*
09/09/74-05/30/77 FY76: $22,729 TOTAL: $37,724
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Cooke, C. H. LARC/Harris, J. E. 41-Aero Engr

NSG 1100 **Old Dominion University** 3629

Study of compliant wall drag reduction turbulent boundary layer and a compliant surface

Period	*Obligations*	
09/09/74-09/08/76	FY76: $24,965	TOTAL: $40,900

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ash, R. L.	LARC/Hefner, J. N.	41-Aero Engr

NSG 1117 **Old Dominion University** 3630

Addition of higher order plate and shell elements into the NASTRAN program

Period	*Obligations*	
10/04/74-03/03/77	FY76: $22,305	TOTAL: $43,529

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Narayanaswami, R.	LARC/Weidman, D. J.	44-Civil Engr
Goglia, G. L.	LARC/Walz, J. E.	

NSG 1127 **Old Dominion University** 3631

Parameterization of gaseous constituencies concentration profiles in the planetary boundary layers

Period	*Obligations*	
12/09/74-02/08/77	FY76: $62,622	TOTAL: $120,598

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kindle, E. C.	LARC/Reichle, H. G., Jr.	31-Atmos Sci
	LARC/Beck, S. M.	

NSG 1131 **Old Dominion University** 3632

Remote measurements of atmospheric trace constituents

Period	*Obligations*	
01/01/75-01/31/77	FY76: $27,885	TOTAL: $54,707

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kindle, E. C.	LARC/Russell, J. M., III	31-Atmos Sci
Twitty, J.	LARC/Davis, R. E.	

NSG 1135 **Old Dominion University** 3633

Wind tunnel design studies and technical evaluation of advanced cargo aircraft concepts

Period	*Obligations*	
01/15/75-05/31/76	FY76:	TOTAL: $38,656

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Goglia, G. L.	LARC/McKinney, L. W.	41-Aero Engr
Rao, D. M.	LARC/Whitehead, A. H., Jr.	

NSG 1143 **Old Dominion University** 3634

Sensor for measuring instantaneous angle of attack of helicopter blades

Period	*Obligations*	
01/13/75-01/12/77	FY76: $38,733	TOTAL: $68,285

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Barna, P. S.	LARC/Kershner, D. D.	41-Aero Engr
Murthy, V. R.	LARC/Feller, C. E.	

NSG 1152 **Old Dominion University** 3635

The earth moon system: dynamics and parameter estimation

Period	*Obligations*	
02/17/75-10/16/78	FY76: $73,041	TOTAL: $125,179

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Breedlove, W. J., Jr.	LARC/Gapcynski, J. P.	
		19-Phys Sci, NEC
	LARC/Tolson, R. H.	

NSG 1153 **Old Dominion University** 3636

Radiative transfer models for nonhomogeneous atmosphere

Period	*Obligations*	
03/01/75-05/31/76	FY76: $19,874	TOTAL: $44,849

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tiwari, S. N.	LARC/Reichle, H. G., Jr.	31-Atmos Sci
	LARC/Beck, S. W.	

NSG 1167 **Old Dominion University** 3637

The structural behavior of advanced composite materials

Period	*Obligations*	
06/01/75-05/31/79	FY76: $25,622	TOTAL: $79,622

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hyer, M. W.	LARC/Davis, J. G., Jr.	41-Aero Engr
	LARC/Pride, R. A.	

NSG 1177 **Old Dominion University** 3638

Experimental and analytical studies in fluidics

Period	*Obligations*	
05/01/75-02/28/77	FY76: $26,866	TOTAL: $36,866

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Goglia, G. L.	LARC/Hellbaum, R. F.	45-Elec Engr

NSG 1186 **Old Dominion University** 3639

Space technology research planning study

Period	*Obligations*	
05/05/75-05/31/76	FY76:	TOTAL: $147,675

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Goglia, G. L.	LARC/Tynan, C. I., Jr.	99-Multi-Discip
	LARC/Osborne, R. S.	

NSG 1197 **Old Dominion University** 3640

Development of high pressure gas lasers and heterodyne detector systems in the 8 to 11 micron spectral region

Period	*Obligations*	
06/01/75-10/31/76	FY76:	TOTAL: $37,307

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kindle, E. C.	LARC/Allario, F.	31-Atmos Sci
Harward, C. N.	LARC/Hoell, J. M.	

NSG 1207 **Old Dominion University** 3641

Collection, reduction and interpretation of the neutral thermospheric and exospheric measurements

Period	*Obligations*	
06/09/75-09/30/76	FY76:	TOTAL: $111,351

Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Goglia, G. L.	LARC/Keating, G.M.	19-Phys Sci, NEC
	LARC/Lee, R. B., III	

VIRGINIA (Continued)

NSG 1225 **Old Dominion University** **3642**

Ride quality judgments as a function of environmental, personality and ride spectra correlates

Period	Obligations	
08/01/75-12/31/76	FY76: $40,717	TOTAL: $40,717
Prin. Invest.	NASA Tech. Officer	CASE Category
Coates, G. D.	LARC/Dempsey, T. K.	69-Psych, NEC
Morgan, B. B.	LARC/Leatherwood, J. D.	
Kirby, R. H.		

NSG 1226 **Old Dominion University** **3643**

An analytical and/or numerical study of three-dimensional boundary layer flows

Period	Obligations	
09/01/75-08/31/76	FY76: $25,145	TOTAL: $25,145
Prin. Invest.	NASA Tech. Officer	CASE Category
Goglia, G. L.	LARC/Harris, J. E.	41-Aero Engr
Vatsa, V. N.	LARC/Morris, D. J.	

NSG 1236 **Old Dominion University** **3644**

Analytical and numerical investigation of structural response of compliant wall materials

Period	Obligations	
08/26/75-08/25/76	FY76: $23,010	TOTAL: $23,010
Prin. Invest.	NASA Tech. Officer	CASE Category
Goglia, G. L.	LARC/Hefner, J. N.	46-Mech Engr

NSG 1237 **Old Dominion University** **3645**

Thermal-structural analysis of convectively cooled structures

Period	Obligations	
09/01/75-08/31/76	FY76: $36,157	TOTAL: $36,157
Prin. Invest.	NASA Tech. Officer	CASE Category
Thornton, E. A.	LARC/Adelman, H. M.	41-Aero Engr
	LARC/Cooper, P. A.	

NSG 1241 **Old Dominion University** **3646**

Linear and nonlinear analysis of orbital telescope/space shuttle dynamics and control

Period	Obligations	
09/15/75-09/14/76	FY76: $28,360	TOTAL: $28,360
Prin. Invest.	NASA Tech. Officer	CASE Category
Roberts, A. S., Jr.	LARC/Keckler, C. R.	49-Engr, NEC
Joshi, S. M.	LARC/Anderson, W. W.	

NSG 1245 **Old Dominion University** **3647**

Aerosol studies application to visibility measurements

Period	Obligations	
09/01/75-01/31/77	FY76: $35,453	TOTAL: $35,453
Prin. Invest.	NASA Tech. Officer	CASE Category
Harris, F. S., Jr.	LARC/Fuller, W. H., Jr.	
		39-Env Sci, NEC
Kindle, E. C.		

NSG 1247 **Old Dominion University** **3648**

Effects of time varying aircraft noise on complex human performance

Period	Obligations	
09/01/75-08/31/76	FY76: $19,924	TOTAL: $19,924
Prin. Invest.	NASA Tech. Officer	CASE Category
Coates, G. D.	LARC/Dempsey, T. K.	69-Psych, NEC
Alluisi, E. A.		

NSG 1252 **Old Dominion University** **3649**

Investigation of advanced remote sensing techniques for the measurement of aerosol characteristics

Period	Obligations	
09/15/75-09/14/76	FY76: $38,233	TOTAL: $38,233
Prin. Invest.	NASA Tech. Officer	CASE Category
Deepak, A.	LARC/McCormick, M. P.	31-Atmos Sci
Becher, J.	LARC/Adams, R. R.	

NSG 1259 **Old Dominion University** **3650**

A study on characterization of stratospheric aerosol and gas parameters with the spacecraft solar occultation experiment

Period	Obligations	
10/01/75-09/30/76	FY76: $46,711	TOTAL: $46,711
Prin. Invest.	NASA Tech. Officer	CASE Category
Chu, W. P.	LARC/McCormick, M. P.	31-Atmos Sci
Becher, J.	LARC/McMaster, L. R.	

NSG 1260 **Old Dominion University** **3651**

Improved optimum design of thermally loaded structures

Period	Obligations	
01/01/76-12/31/77	FY76: $55,998	TOTAL: $55,998
Prin. Invest.	NASA Tech. Officer	CASE Category
Goglia, G. L.	LARC/Adelman, H. M.	41-Aero Engr
Narayanaswami, R.	LARC/Cooper, P. A.	

NSG 1271 **Old Dominion University** **3652**

Space shuttle experiments studies

Period	Obligations	
03/01/76-02/28/77	FY76: $149,669	TOTAL: $149,669
Prin. Invest.	NASA Tech. Officer	CASE Category
Brock, F. J.	LARC/Melfi, L. T., Jr.	13-Physics
Clay Jr., F. P.	LARC/Outlaw, R. A.	

NSG 1279 **Old Dominion University** **3653**

Preliminary investigations into the active control of large space structures

Period	Obligations	
02/15/76-02/14/77	FY76: $13,261	TOTAL: $13,261
Prin. Invest.	NASA Tech. Officer	CASE Category
Hyer, M. W.	LARC/Kruszewski, E. T.	49-Engr, NEC

NSG 1282 **Old Dominion University** **3654**

Determination of atmospheric pollutants from infrared radiation measurements

Period	Obligations	
03/01/76-11/30/76	FY76: $25,354	TOTAL: $25,354
Prin. Invest	NASA Tech. Officer	CASE Category
Tiwari, S. N.	LARC/Reichle, H. G., Jr.	31-Atmos Sci
	LARC/Beck, S. M.	

NSG 1309 **Old Dominion University** **3655**

Experimental and analytical investigations to improve low-speed performance and stability and control characteristics of supersonic cruise fighter vehicles

Period	Obligations	
06/01/76-05/31/77	FY76: $19,505	TOTAL: $19,505
Prin. Invest	NASA Tech. Officer	CASE Category
Goglia, G. L.	LARC/Coe, P. L., Jr.	41-Aero Engr
Graham, A. B.	LARC/Johnson, J. L., Jr.	

NSG 1311 **Old Dominion University** **3656**

Analytical and/or numerical studies to obtain a practical solution technique for the juncture region of intersecting surfaces

Period	Obligations	
06/02/76-06/01/77	FY76: $25,007	TOTAL: $25,007
Prin. Invest	NASA Tech. Officer	CASE Category
Goglia, G. L.	LARC/Bobbitt, P. J.	41-Aero Engr
Patel, D. K.	LARC/Carter, J. E.	

NSG 1315 **Old Dominion University** **3657**

Wind tunnel studies of advanced cargo concepts

Period	Obligations	
06/22/76-06/21/77	FY76: $39,066	TOTAL: $39,066
Prin. Invest	NASA Tech. Officer	CASE Category
Goglia, G. L.	LARC/Peterson, J. B., Jr.	41-Aero Engr
Rao, D. M.		

NSG 1318 **Old Dominion University** **3658**

Correlation and analysis of Elevon seal test results

Period	Obligations	
07/01/76-08/31/77	FY76: $30,361	TOTAL: $30,361
Prin. Invest	NASA Tech. Officer	CASE Category
Keshock, E. G.	LARC/Hunt, L. R.	41-Aero Engr
	LARC/Deveikis, W. D.	

NSG 1321 **Old Dominion University** **3659**

Concepts for structurally compatible thermal finite elements

Period	Obligations	
09/01/76-08/31/77	FY76: $20,501	TOTAL: $20,501
Prin. Invest	NASA Tech. Officer	CASE Category
Thornton, E. A.	LARC/Wieting, A. R.	49-Engr, NEC

NSG 5053 **Old Dominion University** **3660**

Radiation investigations of optical and electronic components used in astronomical satellite studies

Period	Obligations	
02/17/75-03/15/77	FY76: $92,768	TOTAL: $152,747
Prin. Invest	NASA Tech. Officer	CASE Category
Becher, J.	GSFC/Kelsall, T. N.	19-Phys Sci, NEC
Kernell, R. L.	GSFC/Fowler, W. B.	
Clay, F. P., Jr.		

NSG 6002 **Old Dominion University** **3661**

Design, construction and testing of a Rhodamine-B ozone sonder

Period	Obligations	
01/22/75-12/31/75	FY76:	TOTAL: $6,652
Prin. Invest	NASA Tech. Officer	CASE Category
Bandy, A. R.	WFC/Holland, A. C.	31-Atmos Sci

NAS 1-10210 **University of Virginia** **3662**

Master agreement for research and development in the physical and life sciences and engineering

Period	Obligations	
07/24/70-04/30/75	FY76: $1,000	TOTAL: $168,581
Prin. Invest	NASA Tech. Officer	CASE Category
White, E. J.	LARC/Kelly, W. L.	45-Elec Engr

NAS 1-12754 **University of Virginia** **3663**

Research in the physical and life sciences

Period	Obligations	
10/26/73-10/26/76	FY76: $98,523	TOTAL: $198,505
Prin. Invest	NASA Tech. Officer	CASE Category
Barnes, D. W.	LARC/Martin, D. J.	99-Multi-Discip

NAS 5-20999 **University of Virginia** **3664**

Analysis of data for ERTS follow-on investigation

Period	Obligations	
04/03/75-10/03/77	FY76: $46,442	TOTAL: $87,442
Prin. Invest	NASA Tech. Officer	CASE Category
Dolan, R.	GSFC/Crump, E. W.	39-Env Sci, NEC
Hayden, B. P.		
Ywood, H. E.		

NAS 5-22346 **University of Virginia** **3665**

Design and application of a one meter UV-optical telescope for spacelab astronomy missions

Period	Obligations	
04/29/75-12/31/76	FY76: $16,928	TOTAL: $19,504
Prin. Invest	NASA Tech. Officer	CASE Category
Counselman, C. C., III	GSFC/Leckrone, D. S.	11-Astronomy
Pettengill, G. H.		

NAS 5-23496 **University of Virginia** **3666**

Five management case studies on project management shared experiences

Period	Obligations	
03/10/76-04/30/76	FY76: $26,318	TOTAL: $26,318
Prin. Invest	NASA Tech. Officer	CASE Category
Gibson, J.	GSFC/Morse, S.	99-Multi-Discip

NCA 2-825501 **University of Virginia** **3667**

Animal models and instrumentation for quantitative effects of space sickness

Period	*Obligations*	
05/01/75-09/30/76	FY76:	TOTAL: $13,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Updike, O. L.	ARC/Zill, L. P.	52-Clinical Med

NGL 47-005-066 **University of Virginia** **3668**

Studies in astronomy and related scientific and engineering fields

Period	*Obligations*	
10/10/66-09/14/77	FY76:	TOTAL: $199,256
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frederick, L. W.	HQ-SA/Roman, N. G. HQ-SA/Boggess, N. W.	11-Astronomy

NGR 47-005-172 **University of Virginia** **3669**

Interpretation of surface features and surface processes on Mars

Period	*Obligations*	
03/03/71-12/31/76	FY76: $43,667	TOTAL: $215,396
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Howard, A. Dolan, R.	HQ-SL/Dwornik, S. E. HQ-SL/Holt, H. E.	32-Geological Sci

NGR 47-005-176 **University of Virginia** **3670**

Trace element analysis of mineral separates and determination of partition coefficients

Period	*Obligations*	
06/07/71-07/31/76	FY76: $9,200	TOTAL: $60,349
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Allen, R. O.	HQ-SL/French, B. M.	32-Geological Sci

NGR 47-005-181 **University of Virginia** **3671**

The development of a model for predicting passenger acceptance and choice of air transportation systems

Period	*Obligations*	
06/15/71-07/31/76	FY76: $60,015	TOTAL: $556,272
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kuhlthau, A. R. Jacobson, I. D.	LARC/Schoonover, W. E., Jr.	41-Aero Engr

NGR 47-005-186 **University of Virginia** **3672**

Vestibular system in a sample of amphibian and reptilian species

Period	*Obligations*	
10/12/71-01/31/77	FY76: $15,000	TOTAL: $73,451
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ebbesson, S. O. Peterson, E.	ARC/Mehler, W. R.	51-Biology

NGR 47-005-204 **University of Virginia** **3673**

Study of astromatic multiplexing area scanner for large space telescope

Period	*Obligations*	
07/01/75-06/30/76	FY76:	TOTAL: $6,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frederick, L. W. Rakosch, K.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NGR 47-005-208 **University of Virginia** **3674**

Effects of aircraft design on STOL ride quality: a simulator study

Period	*Obligations*	
06/07/73-02/28/77	FY76: $31,215	TOTAL: $102,738
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jacobson, I. R.	LARC/Lichtenstein, J. H. LARC/Queijo, M. J.	41-Aero Engr

NGR 47-005-213 **University of Virginia** **3675**

Study of rats under chronic exposure, high protein diet, and exercise during centrifugation

Period	*Obligations*	
08/01/73-09/30/76	FY76: $24,995	TOTAL: $94,930
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pitts, G. C.	ARC/Oyama, J.	51-Biology

NGR 47-005-219 **University of Virginia** **3676**

Unsteady loads due to propulsive lift configurations

Period	*Obligations*	
01/01/74-12/31/76	FY76: $49,964	TOTAL: $129,770
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Haviland, J. K. Morton, J. B.	LARC/Schoenster, J. A. LARC/Mixson, J. S.	41-Aero Engr

NSG 1010 **University of Virginia** **3677**

Superconducting magnetic suspension and balance experiment

Period	*Obligations*	
03/01/74-09/30/76	FY76: $16,000	TOTAL: $218,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Zapata, R. N.	LARC/Kilgore, R. A. LARC/Boyden, R. P.	41-Aero Engr

NSG 1101 **University of Virginia** **3678**

Optimization and sensitivity studies of flight-path trajectories

Period	*Obligations*	
09/16/74-09/15/76	FY76: $6,849	TOTAL: $36,786
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cook, G.	LARC/Hueschen, R. M. LARC/Walsh, T. M.	49-Engr, NEC

NSG 1128 **University of Virginia** **3679**

Optimization of MLS receivers for multipath environments

Period	*Obligations*	
12/16/74-08/31/76	FY76: $96,132	TOTAL: $126,099
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McAlpine, G. A. Highfill, J. H.	LARC/Shultz, L. R. LARC/Bundick, W. T.	45-Elec Engr

NSG 1151 University of Virginia 3680
Real time flight simulation methodology for real-time flight simulations

Period	Obligations	
03/01/75-02/28/77	FY76: $51,145	TOTAL: $101,145
Prin. Invest.	NASA Tech. Officer	CASE Category
Parrish, E. A., Jr. Cook, G. Vey, M. C.	LARC/Barker, L. E.	21-Mathematics

NSG 1180 University of Virginia 3681
Study of interior aircraft cabin noise

Period	Obligations	
05/19/75-06/30/77	FY76:	TOTAL: $48,259
Prin. Invest.	NASA Tech. Officer	CASE Category
Jacobson, I. D.	LARC/Leatherwood, J. D. LARC/Dempsey, T. K.	41-Aero Engr

NSG 1223 University of Virginia 3682
Potential applications of the operational sampled analog processor

Period	Obligations	
08/01/75-07/31/76	FY76: $49,994	TOTAL: $49,994
Prin. Invest.	NASA Tech. Officer	CASE Category
Parrish, E. A., Jr. McVey, E. S.	LARC/Husson, C. LARC/Wells, J. G., Jr.	45-Elec Engr

NSG 1256 University of Virginia 3683
Interplanetary dust studies

Period	Obligations	
10/01/75-09/30/76	FY76: $17,500	TOTAL: $17,500
Prin. Invest.	NASA Tech. Officer	CASE Category
Singer, S. F.	LARC/Alvarez, J. M.	11-Astronomy

NSG 1274 University of Virginia 3684
A system study of factors affecting acceptance of helicopter transportation

Period	Obligations	
01/15/76-10/14/76	FY76: $32,924	TOTAL: $32,924
Prin. Invest.	NASA Tech. Officer	CASE Category
Jacobson, I. D. Schoultz, M. B.	LARC/Snyder, W. J. LARC/Tapscott, R. J.	49-Engr, NEC

NGL 47-002-005 Virginia Commonwealth University 3685
Radiation hazards to the eye

Period	Obligations	
06/25/65-04/30/77	FY76:	TOTAL: $488,317
Prin. Invest.	NASA Tech. Officer	CASE Category
Ham, W. T.	HQ-SB/Saunders, J. F. HQ-SB/Jones, W. L.	51-Biology

NGL 47-002-020 Virginia Commonwealth University 3686
Microbiological performance testing on water management subsystem for a four man space capsule

Period	Obligations	
04/23/68-05/31/77	FY76:	TOTAL: $252,162
Prin. Invest.	NASA Tech. Officer	CASE Category
Dalton, H. P.	LARC/Wilkins, J. R.	51-Biology

NGR 47-002-041 Virginia Commonwealth University 3687
Isomer effects on polyimide properties

Period	Obligations	
10/11/72-10/31/76	FY76:	TOTAL: $51,355
Prin. Invest.	NASA Tech. Officer	CASE Category
Stump, B. L.	LARC/Bell, V. L., Jr.	12-Chemistry

NGR 47-018-005 Virginia Military Institute 3688
Digital adaptive control of a VTOL aircraft

Period	Obligations	
11/01/73-02/28/77	FY76: $9,679	TOTAL: $30,340
Prin. Invest.	NASA Tech. Officer	CASE Category
Reid, G. F.	LARC/Creedon, J. F.	41-Aero Engr

NAS 1-10646 Virginia Polytechnic Institute 3689
Research and development in the life sciences, physical sciences, and engineering

Period	Obligations	
02/12/71-05/31/75	FY76:	TOTAL: $363,912
Prin. Invest.	NASA Tech. Officer	CASE Category
Wightman, J. P.	LARC/Byvik, C. E.	31-Atmos Sci

NAS 1-13175 Virginia Polytechnic Institute 3690
Research in the physical and life sciences

Period	Obligations	
05/10/74-05/10/76	FY76: $7,621	TOTAL: $207,531
Prin. Invest.	NASA Tech. Officer	CASE Category
Robertson, R. M.	LARC/Martin, D. J.	49-Engr, NEC

NAS 1-13884 Virginia Polytechnic Institute 3691
Study of theory of acoustical propagation through a high subsonic Mach number duct constriction

Period	Obligations	
04/25/75-04/25/77	FY76:	TOTAL: $93,660
Prin. Invest.	NASA Tech. Officer	CASE Category
Nayfeh, A. H.	LARC/Posey, J. W.	13-Physics

NAS 3-18553 Virginia Polytechnic Institute 3692
Basic research in advanced acoustic suppression concepts

Period	Obligations	
08/07/74-10/06/75	FY76:	TOTAL: $56,865
Prin. Invest.	NASA Tech. Officer	CASE Category
Robertson, R. A.	LERC/Baumeister, K. J.	49-Engr, NEC

NAS 5-21984 Virginia Polytechnic Institute 3693
Study of the ATS-F millimeter wave experiment

Period	Obligations	
01/31/74-09/01/75	FY76:	TOTAL: $174,447
Prin. Invest.	NASA Tech. Officer	CASE Category
Bostian, C. W. Stutzman, W. L. Wiley, P. H.	GSFC/Hirschmann, E.	45-Elec Engr

VIRGINIA (Continued)

NAS 5-22577 **Virginia Polytechnic Institute** **3694**

Communication link characterization experiment

Period	*Obligations*	
09/08/75-09/08/76	FY76: $96,000	TOTAL: $96,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Bostian, C. W. Stutzman, W. L. Manus, E. A.	GSFC/Hirschmann, E.	45-Elec Engr

NAS 6-2388 **Virginia Polytechnic Institute** **3695**

Remote sensing in agriculture

Period	*Obligations*	
11/01/73-07/01/77	FY76: $143,000	TOTAL: $214,410
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Pettry, D. E.	WFC/Scott, J. H.	39-Env Sci, NEC

NAS 9-14862 **Virginia Polytechnic Institute** **3696**

A feasibility analysis for the development of a stereofluoroscopy system

Period	*Obligations*	
01/01/76-10/31/76	FY76: $5,000	TOTAL: $5,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rivers, D. B.	JSC/Day, J. L.	49-Engr, NEC

NGL 47-004-067 **Virginia Polytechnic Institute** **3697**

Measurement of the ground wind structure

Period	*Obligations*	
06/15/70-09/30/76	FY76: $55,010	TOTAL: $408,010
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tieleman, H. W.	WFC/Carr, R. E.	31-Atmos Sci

NGL 47-004-080 **Virginia Polytechnic Institute** **3698**

Synthesis, energetics, and chemical characterization of unusual molecules of interest in astronomy at temperatures below 100 K

Period	*Obligations*	
04/19/71-06/30/76	FY76:	TOTAL: $61,960
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
McGee, H. A.	HQ-SL/Fellows, R. F.	11-Astronomy

NGR 47-004-090 **Virginia Polytechnic Institute** **3699**

Research program in aeronautics & air transportation systems

Period	*Obligations*	
06/25/71-06/30/77	FY76: $100,000	TOTAL: $489,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Drew, D. R.	LARC/Anderson, A. F.	41-Aero Engr

NGR 47-004-108 **Virginia Polytechnic Institute** **3700**

Correlation of creep rate with microstructural changes during high temperature creep

Period	*Obligations*	
06/08/72-02/29/76	FY76:	TOTAL: $76,358
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Lytton, J. L. Young, C. T.	LARC/Stein, B. A.	47-Materials Engr

NGR 47-004-114 **Virginia Polytechnic Institute** **3701**

Crash safety of general aviation aircraft

Period	*Obligations*	
09/19/72-12/31/76	FY76: $29,950	TOTAL: $162,835
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Kamat, M. P. Swift, G. W.	LARC/Hayduk, R. J. LARC/Thomson, R. G.	44-Civil Engr

NGR 47-004-116 **Virginia Polytechnic Institute** **3702**

Investigation of digital flight control systems

Period	*Obligations*	
01/11/73-12/31/76	FY76: $16,106	TOTAL: $67,875
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Caglayan, A. K. Van Landingham, H. F.	LARC/Montgomery, R. C.	41-Aero Engr

NGR 47-004-126 **Virginia Polytechnic Institute** **3703**

Spin stabilization of flexible satellites about nontrivial equilibrium positions

Period	*Obligations*	
04/15/74-07/31/75	FY76:	TOTAL: $24,960
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Meirovitch, L.	GSFC/Fedor, J. V.	11-Astronomy

NGR 47-004-129 **Virginia Polytechnic Institute** **3704**

Composite materials research and education

Period	*Obligations*	
01/01/74-08/31/76	FY76: $48,572	TOTAL: $104,608
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Herakovich, C. T.	LARC/Davis, J. G., Jr. LARC/Tenney, D. R.	49-Engr, NEC

NSG 1015 **Virginia Polytechnic Institute** **3705**

Self reorganizing flight control systems geometric formulation

Period	*Obligations*	
03/06/74-10/15/76	FY76: $18,830	TOTAL: $41,265
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cliff, E. M.	LARC/Montgomery, R. C.	41-Aero Engr

NSG 1020 **Virginia Polytechnic Institute** **3706**

Determining ion kinetic energies by a method of mass spectrometer peak-shape variation

Period	*Obligations*	
07/01/74-09/30/76	FY76: $5,000	TOTAL: $15,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Sanzone, G.	LARC/Smith, A.	13-Physics

NSG 1024 **Virginia Polytechnic Institute** **3707**

Photoelastic determination of stress intensity factors for cracks emanating from fastener loaded holes

Period	*Obligations*	
09/15/74-03/14/77	FY76:	TOTAL: $48,828
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Smith, C. W.	LARC/Newman, J. C., Jr.	41-Aero Engr

VIRGINIA (Continued)

NSG 1064 **Virginia Polytechnic Institute** **3708**
Synthesis and polymerization of aromatic secondary diamines
Period *Obligations*
06/01/74-12/31/76 FY76: $10,303 TOTAL: $43,173
Prin. Invest. *NASA Tech Officer* *CASE Category*
Wolfe, J. F. LARC/Johnston, N. J. 12-Chemistry
LARC/Bell, V. L., Jr.

NSG 1071 **Virginia Polytechnic Institute** **3709**
Statistical studies in the advanced technology laboratory program
Period *Obligations*
07/01/74-06/15/76 FY76: TOTAL: $35,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Hinkelmann, K. LARC/Campbell, J. W. 21-Mathematics
Myers, R. H.

NSG 1085 **Virginia Polytechnic Institute** **3710**
Kinetics of the reactions of acid anhydrides with aromatic amines in aprotic solvents
Period *Obligations*
07/01/74-10/31/76 FY76: $12,963 TOTAL: $62,556
Prin. Invest. *NASA Tech Officer* *CASE Category*
Mason, J. G. LARC/Young, P. R. 12-Chemistry

NSG 1099 **Virginia Polytechnic Institute** **3711**
Statistical distribution of time to crack initiation using service data
Period *Obligations*
09/16/74-09/14/76 FY76: TOTAL: $41,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Heller, R. A. LARC/Davidson, J. R. 41-Aero Engr
Yang, J. N. LARC/Leybold, H. A.

NSG 1109 **Virginia Polytechnic Institute** **3712**
Stability and control of flexible spacecraft
Period *Obligations*
10/01/74-06/30/76 FY76: TOTAL: $34,165
Prin. Invest. *NASA Tech Officer* *CASE Category*
Meirovitch, L. LARC/Kruszewski, E. T. 44-Civil Engr
Van Landingham, H. F.

NSG 1114 **Virginia Polytechnic Institute** **3713**
Structural dynamics, stability and control of helicopters
Period *Obligations*
10/08/74-10/31/76 FY76: $38,995 TOTAL: $73,755
Prin. Invest. *NASA Tech Officer* *CASE Category*
Meirovitch, L. LARC/Kvaternik, R. G. 41-Aero Engr

NSG 1119 **Virginia Polytechnic Institute** **3714**
Analysis of solid-rocket effluents for aluminum, silicon and other trace elements by neutron activation analysis
Period *Obligations*
10/24/74-02/28/77 FY76: $7,500 TOTAL: $9,500
Prin. Invest. *NASA Tech Officer* *CASE Category*
Furr, A. K. LARC/Sentell, R. J. 13-Physics

NSG 1124 **Virginia Polytechnic Institute** **3715**
A fundamental approach to adhesion: synthesis surface analysis, thermodynamics and mechanics
Period *Obligations*
12/01/74-11/30/76 FY76: $86,377 TOTAL: $123,182
Prin. Invest. *NASA Tech Officer* *CASE Category*
Wightman, J. P. LARC/Progar, D. J. 12-Chemistry
LARC/Bell, V. L., Jr.

NSG 1182 **Virginia Polytechnic Institute** **3716**
Statistical study of ozone in the atmosphere
Period *Obligations*
07/01/75-11/30/76 FY76: TOTAL: $19,765
Prin. Invest. *NASA Tech Officer* *CASE Category*
Myers, R. H. LARC/Campbell, J. W. 31-Atmos Sci

NSG 1195 **Virginia Polytechnic Institute** **3717**
Interaction of hydrogen chloride with alumina
Period *Obligations*
06/01/75-08/31/76 FY76: TOTAL: $16,625
Prin. Invest. *NASA Tech Officer* *CASE Category*
Wightman, J. P. LARC/Pellett, G. L. 12-Chemistry

NSG 1214 **Virginia Polytechnic Institute** **3718**
Fiber reinforcement and surface protection of selected titanium alloys
Period *Obligations*
07/01/75-08/31/76 FY76: $14,413 TOTAL: $57,295
Prin. Invest. *NASA Tech Officer* *CASE Category*
Houska, C. R. LARC/Tenney, D. R. 47-Materials Engr

NSG 1230 **Virginia Polytechnic Institute** **3719**
Microbiological experiments for the long duration exposure facility--space shuttle missions
Period *Obligations*
09/15/75-03/14/77 FY76: $11,766 TOTAL: $11,766
Prin. Invest. *NASA Tech Officer* *CASE Category*
Drew, S. W. LARC/Dibattista, J. D. 43-Chem Engr
Rony, P. R. LARC/O'Neal, R. L.

NSG 1238 **Virginia Polytechnic Institute** **3720**
Signature analysis of acoustic emissions from composites
Period *Obligations*
10/01/75-12/31/76 FY76: $19,960 TOTAL: $19,960
Prin. Invest. *NASA Tech Officer* *CASE Category*
Henneke, E. G. LARC/Wichorek, G. R. 49-Engr, NEC
Herakovich, C. T. LARC/Pride, R. A.

NSG 1239 **Virginia Polytechnic Institute** **3721**
Aircraft adaptive learning control systems
Period *Obligations*
09/15/75-09/14/75 FY76: $15,818 TOTAL: $15,818
Prin. Invest. *NASA Tech Officer* *CASE Category*
Van Landingham, H. LARC/Montgomery, R. C. 41-Aero Engr

VIRGINIA (Continued)

NSG 1250 **Virginia Polytechnic Institute** **3722**
High temperature composite materials for aerospace structures research

Period	*Obligations*	
10/01/75-09/30/76	FY76: $16,754	TOTAL: $16,754
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Herakovich, C. T.	LARC/Davis, J. G., Jr. LARC/Dexter, H. B.	49-Engr, NEC

NSG 1254 **Virginia Polytechnic Institute** **3723**
Short beam shear tests of polymeric laminates and unidirectional composites

Period	*Obligations*	
10/01/75-09/30/76	FY76: $19,994	TOTAL: $19,994
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stinchcomb, W. W. Henneke, E. G.	LARC/Price, H. L.	46-Mech Engr

NSG 1255 **Virginia Polytechnic Institute** **3724**
Application of stability theory to laminar flow control

Period	*Obligations*	
10/01/75-09/30/76	FY76: $60,000	TOTAL: $60,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nayfeh, A. H.	LARC/Hefner, J. N.	41-Aero Engr

NSG 1262 **Virginia Polytechnic Institute** **3725**
Steady vortex lattice technique development

Period	*Obligations*	
12/01/75-08/31/76	FY76: $15,041	TOTAL: $15,041
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nayfeh, A. H. Mook, D. T. Kandil, O. A.	LARC/Yates, E. C., Jr. LARC/Gloss, B. B., Jr.	41-Aero Engr

NSG 1275 **Virginia Polytechnic Institute** **3726**
An analytic study of a laminar diffusion flame

Period	*Obligations*	
01/15/76-12/14/76	FY76: $10,429	TOTAL: $10,429
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Frair, K. L.	LARC/Maahs, H. G.	19-Phys Sci, NEC

NSG 1276 **Virginia Polytechnic Institute** **3727**
A method for experimental model separation

Period	*Obligations*	
02/15/76-02/14/77	FY76: $24,949	TOTAL: $24,949
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Hallauer, W. L., Jr. Weisshaar, T. A.	LARC/Miserentino, R. LARC/Pinson, L.	49-Engr, NEC

NSG 1286 **Virginia Polytechnic Institute** **3728**
Research in acetylene containing monomers

Period	*Obligations*	
03/01/76-02/28/77	FY76: $23,600	TOTAL: $23,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Ogliaruso, M. A.	LARC/St Clair, T. L. LARC/Johnston, N. J.	12-Chemistry

NSG 2016 **Virginia Polytechnic Institute** **3729**
Aeroelastic phenomena associated with oblique winged aircraft

Period	*Obligations*	
04/01/74-08/31/76	FY76:	TOTAL: $46,501
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weisshaar, T. A.	ARC/Gaspers, P. A., Jr.	41-Aero Engr

NSG 2038 **Virginia Polytechnic Institute** **3730**
Fundamental investigation of failure of fiber composites

Period	*Obligations*	
10/01/74-09/31/76	FY76: $60,757	TOTAL: $152,700
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Brinson, H. F.	ARC/Williams, D. P.	47-Materials Engr

NSG 3073 **Virginia Polytechnic Institute** **3731**
Studies of internal flow fields of high throat-Mach number quiet engine inlets

Period	*Obligations*	
10/01/75-02/01/77	FY76: $30,005	TOTAL: $30,005
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Jakubowski, A. K. Schetz, J. A.	LERC/Diedrich, J. H.	41-Aero Engr

NSG 7111 **Virginia Polytechnic Institute** **3732**
Review of possible studies of the mineralogy and petrology of Mars and Mercury

Period	*Obligations*	
01/20/75-10/31/75	FY76:	TOTAL: $3,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Gilbert, C.	HQ-SL/Dwornik, S. E.	32-Geological Sci

NGL 47-014-009 **Virginia State College** **3733**
Numerical treatment of sound propagation through a duct

Period	*Obligations*	
06/29/73-06/30/77	FY76:	TOTAL: $79,442
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Agrawal, K. M.	LARC/Lester, H. C.	41-Aero Engr

NGR 47-014-006 **Virginia State College** **3734**
Research program in nuclear and solid state physics

Period	*Obligations*	
06/23/72-12/31/76	FY76: $23,649	TOTAL: $92,716
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Stronach, C. E.	LARC/Wilson, J. W.	13-Physics

WASHINGTON

NAS 1-9694 **University of Washington** **3735**
Participation in the science planning for the Viking 1975 missions in the area of meteorology

Period	*Obligations*	
04/27/70-03/31/77	FY76: $159,247	TOTAL: $373,919
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Leovy, C. B.	LARC/Williams, T. S., Jr. LARC/Glenny, W. R.	31-Atmos Sci

WASHINGTON (Continued)

NAS 1-14341 **University of Washington** **3736**
Science support for the limb infrared monitor of the stratosphere experiment
Period *Obligations*
04/12/76-10/31/78 FY76: $10,000 TOTAL: $10,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Leovy, C. B. LARC/Russell, J. M., III 31-Atmos Sci
LARC/James, R. L., Jr.

NAS 2-8541 **University of Washington** **3737**
Conducting 50 bone assays and 200 serum PTH assays
Period *Obligations*
08/01/74-06/30/76 FY76: TOTAL: $11,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Baylink, D. J. ARC/Holton, E. M. 53-Other Medical
ARC/Sandler, H.

NAS 5-22379 **University of Washington** **3738**
Study of the HR diagram to find the boundary line for effective hydrogen convection zones
Period *Obligations*
04/09/75-06/24/77 FY76: $11,278 TOTAL: $29,566
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bohm-Vitense, E. GSFC/Underhill, A. B. 11-Astronomy

NAS 9-13029 **University of Washington** **3739**
Total body calcium analysis
Period *Obligations*
06/29/72-10/01/76 FY76: $19,999 TOTAL: $252,485
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Nelp, W. B. JSC/Rambaut, P. C. 59-Life Sci, NEC

NAS 9-13743 **University of Washington** **3740**
Scanning electron microscope analysis
Period *Obligations*
11/21/73-11/30/76 FY76: $5,000 TOTAL: $16,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Brownlee, D. E. JSC/Horz, F. 32-Geological Sci

NCA 2-850501 **University of Washington** **3741**
Modeling of the stable atmospheric boundary layer
Period *Obligations*
04/01/75-04/30/76 FY76: TOTAL: $7,875
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Businger, J. A. ARC/Zill, L. P. 41-Aero Engr

NCA 2-850602 **University of Washington** **3742**
Study of the effects of thermal exposure porosity
Period *Obligations*
07/01/75-06/30/76 FY76: $11,035 TOTAL: $11,035
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mueller, J. I. ARC/Zill, L. P. 46-Mech Engr

NGL 48-002-004 **University of Washington** **3743**
Multidisciplinary research in materials sciences with emphasis on investigation of inorganic nonmetallic ceramic materials
Period *Obligations*
06/28/73-05/31/79 FY76: $200,000 TOTAL: $3,519,170
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Mueller, J. I. LERC/Lad, R. A. 47-Materials Engr

NGL 48-002-010 **University of Washington** **3744**
Experimental and theoretical investigation of wind tunnel geometry, emphasizing factors pertinent to V/STOL vehicle testing
Period *Obligations*
10/30/64-09/14/76 FY76: TOTAL: $382,820
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Joppa, R. G. LARC/Heyson, H. H. 41-Aero Engr

NGL 48-002-035 **University of Washington** **3745**
An experimental investigation of wind tunnel test limits for V/STOL type vehicles in wind tunnels with curved walls
Period *Obligations*
08/19/66-06/30/77 FY76: TOTAL: $185,428
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Rae, W. H. LARC/Heyson, H. H. 41-Aero Engr

NGL 48-002-044 **University of Washington** **3746**
Generation of coherent radiation and the use of intense coherent radiation for generation of plasmas
Period *Obligations*
05/19/67-11/14/76 FY76: $82,000 TOTAL: $687,900
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hertzberg, A. HQ-RR/Thom, K. 13-Physics
Pietrzyk, Z. A. ARC/Billman, K. W.

NGL 48-002-047 **University of Washington** **3747**
Interaction shock wave and turbulent boundary layer
Period *Obligations*
09/16/67-06/30/79 FY76: $44,000 TOTAL: $397,659
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Childs, M. E. ARC/Rose, W. C. 41-Aero Engr

NGR 48-002-003 **University of Washington** **3748**
Use of photoelastic methods to establish a procedure for stress analysis of a viscoelastic model subjected to transient temperature and time-dependent loading
Period *Obligations*
04/03/63-12/31/76 FY76: TOTAL: $261,810
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hodge, P. W. HQ-SL/Fellows, R. F. 41-Aero Engr
HQ-SL/Donn, B. D.

NGR 48-002-033 **University of Washington** **3749**
Study of interplanetary dust
Period *Obligations*
10/17/66-12/31/76 FY76: $49,310 TOTAL: $329,167
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hodge, P. W. HQ-SL/Fellows, R. F. 11-Astronomy
HQ-SA/Logan, W.

WASHINGTON (Continued)

NGR 48-002-107 University of Washington 3750
High Reynolds numbers flows
Period *Obligations*
01/28/71-05/15/77 FY76: $50,635 TOTAL: $273,379
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Russell, D. A. ARC/Steinle, F. W., Jr. 41-Aero Engr
Tuzla, K. ARC/Steinle, F. W., Jr.

NGR 48-002-130 University of Washington 3751
Models of primordial self-replicating systems
Period *Obligations*
07/19/72-03/01/76 FY76: TOTAL: $13,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Gordon, M. P. HQ-SB/Geih, D. S. 51-Biology

NGR 48-002-141 University of Washington 3752
Research program in aeronautics & air transportation
Period *Obligations*
05/10/72-01/31/79 FY76: $143,485 TOTAL: $273,485
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Childs, M. E. ARC/Rose, W. C. 41-Aero Engr
Gessner, F. B. ARC/Watson, E. C.

NGR 48-002-142 University of Washington 3753
Analysis of continuum channel light curves
Period *Obligations*
10/03/72-07/31/76 FY76: TOTAL: $74,299
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Jin, R. S. HQ-SL/Brunk, W. E. 11-Astronomy

NGR 48-002-149 University of Washington 3754
Lunar sample analysis
Period *Obligations*
10/01/72-01/31/77 FY76: $55,600 TOTAL: $185,979
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Ghose, S. JSC/Harris, J. W. 13-Physics

NGR 48-002-153 University of Washington 3755
Classification and mapping of planetary soils
Period *Obligations*
02/12/73-10/31/75 FY76: TOTAL: $3,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vgolihi, F. C. HQ-SL/Dwornik, S. E. 32-Geological Sci

NGR 48-002-154 University of Washington 3756
Study of physical conditions in interplanetary and magnetospheric regions
Period *Obligations*
08/01/73-07/31/76 FY76: TOTAL: $44,017
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Parks, G. K. HQ-ST/Schmerling, E. R. 13-Physics

NGR 48-002-162 University of Washington 3757
Atmospheric studies based on Mariner 9 data
Period *Obligations*
07/01/73-06/30/74 FY76: TOTAL: $29,272
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Leovy, C. B. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NSG 2131 University of Washington 3758
Collect and analyze meteor debris from the stratosphere
Period *Obligations*
03/01/76-02/28/77 FY76: $11,500 TOTAL: $11,500
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hodge, P. W. ARC/Blanchard, M. B.
19-Phys Sci, NEC
ARC/Farlow, N. H.

NSG 5039 University of Washington 3759
Stratospheric long waves
Period *Obligations*
12/01/74-10/31/76 FY76: $24,991 TOTAL: $54,991
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Leovy, C. B. GSFC/Eberstein, I. 31-Atmos Sci
Webster, P. J. GSFC/Heath, D. F.

NSG 7085 University of Washington 3760
Dynamics of planetary atmospheres
Period *Obligations*
07/01/74-10/01/76 FY76: TOTAL: $76,224
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Leovy, C. B. HQ-SL/Fellows, R. F. 31-Atmos Sci

NSG 7173 University of Washington 3761
Application of spectral reflectance of lunar samples to telescopic spectra of unvisited parts of the moon
Period *Obligations*
07/01/75-01/31/79 FY76: $32,508 TOTAL: $32,508
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Adams, J. B. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 7174 University of Washington 3762
Visible and near-infrared reflectance spectroscopy
Period *Obligations*
07/01/75-01/31/79 FY76: $126,648 TOTAL: $126,648
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Adams, J. B. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NSG 9032 University of Washington 3763
Reflectance spectroscopy of lunar samples
Period *Obligations*
07/01/75-01/31/77 FY76: $117,430 TOTAL: $117,430
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Adams, J. D. JSC/Harris, J. W. 32-Geological Sci

WASHINGTON (Continued)

NAS 8-29725 **Washington State University** **3764**
Solidification of binary alloys exhibiting solid state immiscibility under zero gravity conditions

Period	*Obligations*	
04/17/73-10/31/75	FY76:	TOTAL: $70,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, A. A.	MSFC/Yates, I. C., Jr.	47-Materials Engr
Anantatmula, R. P.	MSFC/Lacy, L. L.	

NSG 7214 **Washington State University** **3765**
Atmospheric measurements of nitrous oxide and the halocarbons

Period	*Obligations*	
02/01/76-01/31/77	FY76: $99,272	TOTAL: $99,272
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Rasmussen, R. A.	HQ-SU/King, J., Jr.	31-Atmos Sci
Pierotti, D.	HQ-SU/Gauntner, D. J.	

WEST VIRGINIA

NSG 7089 **West Virginia Col. Grad. Studies** **3766**
Economic analysis and NASA technology program planning

Period	*Obligations*	
08/31/74-08/30/76	FY76: $37,543	TOTAL: $61,397
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Cobb, W. E.	HQ-RX/Rollins, R. H. HQ-RX/Mullin, J. P.	75-Political Sci

NAS 3-19725 **West Virginia University** **3767**
Development of a fluidized bed computer model

Period	*Obligations*	
06/23/75-02/13/77	FY76:	TOTAL: $73,509
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Wen, C. Y.	LERC/Phillips, B.	49-Engr, NEC

NGR 49-001-056 **West Virginia University** **3768**
Analysis of microwave radiometer measurement of a water tank surface

Period	*Obligations*	
04/20/72-05/15/77	FY76:	TOTAL: $81,713
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Balanis, C. A.	LARC/Johnson, J. W. LARC/Jones, W. L.	45-Elec Engr

WISCONSIN

NGR 50-010-001 **Beloit College** **3769**
Low spectral resolution studies on large space telescope

Period	*Obligations*	
10/01/73-02/29/76	FY76:	TOTAL: $5,488
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schroeder, D. J.	GSFC/Sobieski, S. GSFC/Meese, K. J.	11-Astronomy

NSG 1025 **Marquette University** **3770**
Attitude determination of a high altitude balloon payload system

Period	*Obligations*	
04/01/74-08/31/75	FY76:	TOTAL: $23,200
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nigro, N. J. Elkouh, A. F.	LARC/Hinton, D. E.	21-Mathematics

NAS 1-14136 **University of Wisconsin - Madison** **3771**
Laser radar for meteorological measurements

Period	*Obligations*	
09/11/75-09/10/78	FY76: $250,000	TOTAL: $250,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weinman, J. A. Parent, R. J. Roesler, F. L.	LARC/Northam, G. B. LARC/Remsberg, E. E.	31-Atmos Sci

NAS 2-7314 **University of Wisconsin - Madison** **3772**
Environmental factors controlling growth

Period	*Obligations*	
10/24/72-06/30/76	FY76: $10,000	TOTAL: $64,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tibbetts, T. W.	ARC/Taketa, S. T.	51-Biology

NAS 2-8752 **University of Wisconsin - Madison** **3773**
Development of a method for determination of vitamin D metabolites in blood

Period	*Obligations*	
02/01/75-09/30/76	FY76: $6,000	TOTAL: $22,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Deluca, H. F.	ARC/Holton, E. M. ARC/Danellis, J. V.	12-Chemistry

NAS 2-8813 **University of Wisconsin - Madison** **3774**
Design and development of the Pioneer/Venus net flux radiometer

Period	*Obligations*	
05/10/75-08/31/78	FY76: $500,000	TOTAL: $550,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Suomi, V. E. Sromovsky, L. A.	ARC/Hall, C. F. ARC/Twarowski, R. J.	31-Atmos Sci

WISCONSIN (Continued)

NAS 5-20968 **University of Wisconsin - Madison** **3775**
Thermal honeycomb shield concept
Period *Obligations*
04/25/74-03/18/76 FY76: TOTAL: $23,975
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Dombrowski, R. M. GSFC/Oberright, J. E. 49-Engr, NEC

NAS 5-20974 **University of Wisconsin - Madison** **3776**
Navigation model for ATS satellites
Period *Obligations*
03/18/75-06/30/76 FY76: $20,000 TOTAL: $59,790
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Suomi, V. E. GSFC/Squires, R. K. 13-Physics
Kuhlow, W. W.

NAS 5-21798 **University of Wisconsin - Madison** **3777**
Studies of soundings and imaging measurements from geostationary satellites
Period *Obligations*
08/01/72-11/30/76 FY76: $41,221 TOTAL: $296,221
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Soumi, V. E. GSFC/Theon, J. S. 31-Atmos Sci

NAS 5-21965 **University of Wisconsin - Madison** **3778**
Development of an IR temperature sounder for SMS spacecraft
Period *Obligations*
08/01/73-09/30/77 FY76: $50,000 TOTAL: $244,024
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Suomi, V. E. GSFC/Moody, J. C. 31-Atmos Sci
Sromovsky, L. A.

NAS 5-22349 **University of Wisconsin - Madison** **3779**
High resolution spectroscopy for a one meter class UV-optical telescope for spacelab astronomy missions
Period *Obligations*
04/23/75-12/31/76 FY76: $10,000 TOTAL: $13,247
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Anderson, C. M. GSFC/Leckrone, D. S. 11-Astronomy

NAS 5-22410 **University of Wisconsin - Madison** **3780**
Reduction and analysis of data from OSO-1 soft X-ray background experiment
Period *Obligations*
06/26/75-06/25/77 FY76: $200,000 TOTAL: $300,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Kraushaar, W. L. GSFC/Worrall, W. 31-Atmos Sci

NAS 5-23285 **University of Wisconsin - Madison** **3781**
Operation and data handling requirements for large space telescope
Period *Obligations*
09/07/73-09/30/76 FY76: $13,866 TOTAL: $49,589
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bless, R. C. GSFC/Sobieski, S. 11-Astronomy
GSFC/Meese, K. J.

NAS 5-23296 **University of Wisconsin - Madison** **3782**
Update and improvement of interactive man-computer system
Period *Obligations*
08/13/73-06/30/76 FY76: $237,587 TOTAL: $503,853
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Suomi, V. E. GSFC/Greaves, J. R. 31-Atmos Sci

NAS 5-23462 **University of Wisconsin - Madison** **3783**
Global atmospheric research project
Period *Obligations*
06/07/76-09/30/78 FY76: $40,000 TOTAL: $40,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Suomi, V. E. GSFC/Greaves, J. R. 31-Atmos Sci

NAS 5-23500 **University of Wisconsin - Madison** **3784**
Continued operation of a biomedical applications
Period *Obligations*
06/21/76-02/25/78 FY76: $8,000 TOTAL: $8,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Houston, N. GSFC/Friedman, D. S. 53-Other Medical
Renner, J. H.

NAS 8-28733 **University of Wisconsin - Madison** **3785**
Metals-melting and exothermic brazing
Period *Obligations*
05/25/72-01/01/76 FY76: TOTAL: $64,080
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Heine, R. W. MSFC/Williams, J. R. 47-Materials Engr
Siewert, T. A. MSFC/Hasemeyer, E. A.

NAS 8-29387 **University of Wisconsin - Madison** **3786**
Studies associated with large space telescope working group
Period *Obligations*
07/15/73-07/31/76 FY76: TOTAL: $3,674
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Code, A. D. MSFC/Odell, C. R. 11-Astronomy
MSFC/Snoddy, W. C.

NASW 2716 **University of Wisconsin - Madison** **3787**
Establishment of a biomedical applications team
Period *Obligations*
07/01/74-06/30/75 FY76: TOTAL: $110,491
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Unavailable HQ-KT/Zimmerman, R. R.
59-Life Sci, NEC

NASW 2819 **University of Wisconsin - Madison** **3788**
Operation of a biomedical applications team
Period *Obligations*
07/01/75-06/30/76 FY76: $174,998 TOTAL: $174,998
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Huston, N. HQ-KT/O'Handley, D. A.
59-Life Sci, NEC
Renner, J. H.

NGL 50-002-013 **University of Wisconsin - Madison** **3789**
Investigations and studies of ultraviolet stellar spectra and associated instrumentation
Period *Obligations*
05/20/64-03/31/79 FY76: $298,000 TOTAL: $2,266,420
Prin. Invest. *NASA Tech Officer* *CASE Category*
Code, A. D. GSFC/Bissell, E. E., Jr. 11-Astronomy
HQ-SA/Roman, N. G.

NGL 50-002-044 **University of Wisconsin - Madison** **3790**
Research in cosmic and solar physics
Period *Obligations*
10/25/65-03/31/79 FY76: $222,500 TOTAL: $1,807,661
Prin. Invest. *NASA Tech Officer* *CASE Category*
Kraushaar, W. L. HQ-SA/Sofia, S. 11-Astronomy

NGL 50-002-127 **University of Wisconsin - Madison** **3791**
Multidisciplinary research in space science & engineering
Period *Obligations*
12/19/69-07/31/78 FY76: TOTAL: $1,175,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Clapp, J. L. HQ-P/Vitale, J. A. 39-Env Sci, NEC

NGR 50-002-051 **University of Wisconsin - Madison** **3792**
Applications of the direct photon absorption techniques for measuring bone-mineral content
Period *Obligations*
09/01/66-08/31/76 FY76: $40,000 TOTAL: $519,164
Prin. Invest. *NASA Tech Officer* *CASE Category*
Cameron, J. R. ARC/Young, D. R. 52-Clinical Med
Mazess, R. B.

NGR 50-002-162 **University of Wisconsin - Madison** **3793**
Solar wind physics
Period *Obligations*
01/26/71-12/31/76 FY76: $50,000 TOTAL: $310,619
Prin. Invest. *NASA Tech Officer* *CASE Category*
Scherb, F. HQ-ST/Cauffman, D. P. 13-Physics
HQ-ST/Schmerling, E. R.

NGR 50-002-189 **University of Wisconsin - Madison** **3794**
Cloud image processing for planetary flybys
Period *Obligations*
01/19/72-12/31/76 FY76: $31,000 TOTAL: $65,297
Prin. Invest. *NASA Tech Officer* *CASE Category*
Suomi, V. E. HQ-SL/Fellows, R. F. 31-Atmos Sci
HQ-SL/Brunk, W. E.

NGR 50-002-191 **University of Wisconsin - Madison** **3795**
Elimination of microbial flora and its effect on immunity to infection
Period *Obligations*
02/04/72-01/31/77 FY76: $23,042 TOTAL: $170,742
Prin. Invest. *NASA Tech Officer* *CASE Category*
Balish, E. ARC/Mandel, A. D. 52-Clinical Med

NGR 50-002-215 **University of Wisconsin - Madison** **3796**
Investigation of cloud displacement data in a fluorescent IGG, IGM, and IGA antibody studies
Period *Obligations*
03/01/73-09/30/76 FY76: $14,000 TOTAL: $133,634
Prin. Invest. *NASA Tech Officer* *CASE Category*
Suomi, V. E. GSFC/Halem, M. 31-Atmos Sci
GSFC/Quirk, W.

NGR 50-002-223 **University of Wisconsin - Madison** **3797**
Study of the use and design characteristics of visible and ultraviolet interference spectrometers for the large space telescope
Period *Obligations*
10/01/73-02/29/76 FY76: $426 TOTAL: $5,766
Prin. Invest. *NASA Tech Officer* *CASE Category*
Roesler, F. L. GSFC/Sobieski, S. 11-Astronomy
GSFC/Meese, K. J.

NSG 1196 **University of Wisconsin - Madison** **3798**
Statistical modeling and inference for orientation data
Period *Obligations*
09/01/75-08/31/76 FY76: TOTAL: $24,998
Prin. Invest. *NASA Tech Officer* *CASE Category*
Johnson, R. A. LARC/Campbell, J. W. 21-Mathematics
Bhattacharyya, G. K.

NSG 2002 **University of Wisconsin - Madison** **3799**
Rapid diagnosis of rhinovirus infection by fluorescent IGG, IGM, and IGA
Period *Obligations*
01/15/74-01/14/77 FY76: $25,000 TOTAL: $75,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Dick, E. C. ARC/Mandel, A. D. 52-Clinical Med

NSG 2104 **University of Wisconsin - Madison** **3800**
Viral etiology and epidemiology of respiratory infriction in an isolated Antarctic station
Period *Obligations*
09/01/75-08/31/76 FY76: $30,000 TOTAL: $30,000
Prin. Invest. *NASA Tech Officer* *CASE Category*
Dick, E. ARC/Mandel, A. D. 52-Clinical Med

NSG 5100 **University of Wisconsin - Madison** **3801**
Ultraviolet studies with the Princeton telescope aboard the Copernicus satellite
Period *Obligations*
06/01/76-05/31/77 FY76: $10,578 TOTAL: $10,578
Prin. Invest. *NASA Tech Officer* *CASE Category*
Savage, B. D. GSFC/Kupperian, J. E. 11-Astronomy

NSG 7033 **University of Wisconsin - Madison** **3802**
Investigation of the galactic and interplanetary night sky emission
Period *Obligations*
05/01/74-10/31/75 FY76: TOTAL: $32,540
Prin. Invest. *NASA Tech Officer* *CASE Category*
Scherb, F. HQ-SA/Boggess, N. W. 11-Astronomy
Roesler, F. L. HQ-SA/Calahan, H. D.

WISCONSIN (Continued)

NSG 7050 **University of Wisconsin - Madison** **3803**
Data analysis of OAO-2 ultraviolet spectrophotometry
Period *Obligations*
07/01/74-06/30/77 FY76: $55,500 TOTAL: $362,200
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Code, A. D. HQ-SA/Roman, N. G. 11-Astronomy
HQ-SA/Rosendhal, J. D.

NSG 7133 **University of Wisconsin - Madison** **3804**
Ultraviolet studies with the Dutch national satellite
Period *Obligations*
06/01/75-08/31/77 FY76: TOTAL: $8,717
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Savage, B. D. HQ-SA/Rosendhal, J. D. 11-Astronomy

NSG 7215 **University of Wisconsin - Madison** **3805**
Vacuum ultraviolet photon excitation and electron ejection from surfaces
Period *Obligations*
02/01/76-01/31/77 FY76: $40,000 TOTAL: $40,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Taylor, J. W. HQ-SL/Williams, R. J. 32-Geological Sci
HQ-SL/Flinn, E. A.

NGR 50-007-001 **University of Wisconsin - Milwaukee** **3806**
Dynamic response and flow visualization analyses for helicopter rotor blades
Period *Obligations*
12/02/70-01/01/77 FY76: $32,980 TOTAL: $272,834
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Bratanow, T. LARC/Young, W. H., Jr. 41-Aero Engr
HQ-RP/Ward, J. F.

NGR 50-009-001 **University of Wisconsin - Parkside** **3807**
Identification, distribution and significance of forms on Mars
Period *Obligations*
00/00/00-05/30/76 FY76: $6,008 TOTAL: $13,472
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Smith, E. I. HQ-SL/Dwornik, S. E. 32-Geological Sci
HQ-SL/Holt, H. E.

WYOMING

NAS 1-13213 **University of Wyoming** **3808**
Stratospheric aerosol measurements for Apollo-Soyuz test project
Period *Obligations*
05/02/74-11/01/76 FY76: $25,000 TOTAL: $342,127
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pepin, T. J. LARC/Crumbly, K. H. 31-Atmos Sci
LARC/Mauldin, L. E., III

NAS 1-13797 **University of Wyoming** **3809**
Stratospheric aerosol measurement instrument
Period *Obligations*
01/29/75-04/28/79 FY76: $1,350,000 TOTAL: $2,100,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pepin, T. J. LARC/Hedgepeth, K. D. 31-Atmos Sci
LARC/Mauldin, L. E., III

NAS 1-14373 **University of Wyoming** **3810**
Science support for the Nimbus G stratospheric aerosol measurement experiment
Period *Obligations*
04/02/76-10/31/78 FY76: $19,000 TOTAL: $19,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Pepin, T. J. LARC/McCormick, M. P. 31-Atmos Sci
LARC/McMaster, L. R.

NAS 8-32067 **University of Wyoming** **3811**
Aerosol and nucleation research in support of NASA cloud physics experiment in space
Period *Obligations*
05/10/76-12/31/77 FY76: $29,894 TOTAL: $29,894
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Vali, G. MSFC/Schrick, B. J. 31-Atmos Sci

NGR 51-001-035 **University of Wyoming** **3812**
Search for relativistic magnetic charges in cosmic rays
Period *Obligations*
02/03/71-05/26/76 FY76: $1,500 TOTAL: $131,486
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tompkins, D. R., Jr. HQ-SA/Sofia, S. 13-Physics

NSG 7207 **University of Wyoming** **3813**
Theoretical investigation of the equilibrium distribution of space shuttle alumina aerosol effluent
Period *Obligations*
02/01/76-01/31/77 FY76: $65,091 TOTAL: $65,091
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Hofmann, D. J. HQ-SU/King, J., Jr. 31-Atmos Sci
HQ-SU/Reed, E. F.

CANADA

NGR 52-026-039 **University of Toronto** **3814**
Experimental determination of ultimate strength criteria for design of composite structures
Period *Obligations*
03/08/73-06/30/75 FY76: TOTAL: $13,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Tennyson, R. C. LARC/Foye, R. L. 41-Aero Engr

CANADA (Continued)

NSG 7079 **University of Toronto** **3815**

Research on motion sickness

Period	*Obligations*	
09/01/74-04/31/76	FY76:	TOTAL: $10,000
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Johnson, W. H.	HQ-SB/Halstead, T. W. HQ-SB/Vinograd, S. P.	53-Other Medical

NSG 7219 **University of Toronto** **3816**

Experimental evaluation of the tensor polynomial failure criterion for designing composite materials

Period	*Obligations*	
09/01/75-08/31/77	FY76: $16,356	TOTAL: $16,356
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Tennyson, R. C.	LARC/Foye, R. L. LARC/Pride, R. A.	47-Materials Engr

NGR 52-134-005 **York University** **3817**

Studies of production and reaction processes of O (1D2) of interest in the earth's atmosphere

Period	*Obligations*	
04/26/73-03/31/77	FY76: $40,000	TOTAL: $119,760
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Schiff, H. I.	LERC/Baker, C. E.	31-Atmos Sci

CHILE

NAS 5-1925 **University of Chile** **3818**

Maintenance & operation of minitrack facilities

Period	*Obligations*	
09/21/62-09/30/76	FY76: $3,405,100	TOTAL: $22,409,650
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Danyau, C. R.	GSFC/Lafleur, W. GSFC/Force, C.	99-Multi-Discip

GREAT BRITAIN

NSG 7172 **University of Southhampton** **3819**

Self-streamlining of the test section of a transonic wind tunnel

Period	*Obligations*	
10/01/75-09/30/76	FY76: $16,086	TOTAL: $16,086
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Goodyer, M. J.	LARC/Kilgore, R. A. LARC/Ray, E. J.	41-Aero Engr

ISRAEL

NGR 52-012-008 **Israel Institute of Technology** **3820**

Automated wing structural design

Period	*Obligations*	
10/01/73-06/01/76	FY76:	TOTAL: $16,881
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Haftka, R. T.	LARC/Dixon, S. C. LARC/Starnes, J. H., Jr.	41-Aero Engr

NSG 7072 **Israel Institute of Technology** **3821**

Flutter suppression and gust alleviation using active controls

Period	*Obligations*	
08/01/74-09/30/77	FY76:	TOTAL: $26,512
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Nissim, E.	LARC/Abel, I. LARC/Bland, S. R.	41-Aero Engr

NSG 7083 **Israel Institute of Technology** **3822**

Inelastic behavior of advanced composite materials (boron and graphite epoxy)

Period	*Obligations*	
08/01/74-04/30/77	FY76:	TOTAL: $20,785
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Weller, T.	LARC/Bush, H. G.	41-Aero Engr

ITALY

NASW 1761 **University of Rome** **3823**

Launching and associated activities at San Marco range

Period	*Obligations*	
08/21/70-12/31/75	FY76: $8,010	TOTAL: $3,222,748
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Unavailable	HQ-MV/Goozh, P. E.	49-Engr, NEC

NEW ZEALAND

NSG 7192 **University of Canterbury** **3824**

Study of the propagation of sound in nonuniform duct

Period	*Obligations*	
07/01/75-06/30/77	FY76: $29,600	TOTAL: $29,600
Prin. Invest.	*NASA Tech. Officer*	*CASE Category*
Eversman, W.	LERC/Rice, E. J.	46-Mech Engr

PERU

NASW 7 **University of Peru** **3825**
Operation of tracking station
Period *Obligations*
12/01/68-06/01/79 FY76: $33,000 TOTAL: $3,300,512
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Unavailable GSFC/Christie, C. J. 49-Engr, NEC

SWEDEN

NGR 52-028-004 **Uppsala University** **3826**
Inner ear research
Period *Obligations*
12/01/72-07/01/76 FY76: TOTAL: $45,000
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Engstrom, H. ARC/Kimball, W. L. 53-Other Medical

YUGOSLAVIA

NSG 7163 **University of Split** **3827**
Synthesis of time-dependent arc impedance of a large capacitor discharge circuit
Period *Obligations*
09/01/75-08/31/76 FY76: $10,654 TOTAL $10,654
Prin. Invest. *NASA Tech. Officer* *CASE Category*
Slapnicar, P. I. ARC/Dannenberg, R. E. 13-Physics

NASA'S UNIVERSITY PROGRAM
APPENDIX A
CROSS INDEX BY GRANT/CONTRACT NUMBER

Entries are arranged alphanumerically. Grants are identifiable by prefix letters NGF, NGL, NGR, NGT and NSG. All other prefixes denote contracts.

GRANT/ CONTRACT NUMBER	ACC NO.
C-80166C	1531
H-23602B	1958
NAS 1-6860	2543
NAS 1-9434	3604
NAS 1-9680	3293
NAS 1-9682	1332
NAS 1-9683	2899
NAS 1-9684	2414
NAS 1-9685	3444
NAS 1-9691	2415
NAS 1-9692	1333
NAS 1-9693	1906
NAS 1-9694	3735
NAS 1-9697	2614
NAS 1-9699	3521
NAS 1-9701	1334
NAS 1-9702	2416
NAS 1-9703	1186
NAS 1-9705	2750
NAS 1-10210	3662
NAS 1-10492	2379
NAS 1-10493	3004
NAS 1-10646	3689
NAS 1-11676	2615
NAS 1-11707	3605
NAS 1-11854	1271
NAS 1-11855	2814
NAS 1-11871	3203
NAS 1-11958	3583
NAS 1-12106	1721
NAS 1-12209	1834
NAS 1-12304	1830
NAS 1-12311	1187
NAS 1-12445	3592
NAS 1-12705	3557
NAS 1-12754	3663
NAS 1-12976	2186
NAS 1-13129	2167
NAS 1-13175	3690
NAS 1-13213	3808
NAS 1-13422	1959
NAS 1-13423	3580
NAS 1-13502	2751
NAS 1-13586	2801
NAS 1-13656	1262
NAS 1-13712	2616
NAS 1-13797	3809
NAS 1-13820	3606
NAS 1-13884	3691
NAS 1-13889	2705
NAS 1-13913	3581
NAS 1-14034	3582
NAS 1-14124	3131
NAS 1-14136	3771
NAS 1-14160	3478
NAS 1-14185	3404
NAS 1-14193	3607
NAS 1-14276	1263
NAS 1-14313	1855
NAS 1-14332	1101
NAS 1-14341	3736
NAS 1-14351	1960
NAS 1-14373	3810
NAS 1-14393	3204
NAS 1-14394	2549
NAS 1-14406	3109
NAS 1-14507	3593
NAS 2-6057	2550
NAS 2-6265	1102
NAS 2-6551	2051
NAS 2-6552	1594
NAS 2-6553	2168
NAS 2-6556	1188
NAS 2-6558	1703
NAS 2-6615	1722
NAS 2-6706	1335
NAS 2-7059	1664
NAS 2-7251	1532
NAS 2-7262	2417
NAS 2-7273	3166
NAS 2-7314	3772
NAS 2-7350	2752
NAS 2-7358	3551
NAS 2-7613	2706
NAS 2-7620	2418
NAS 2-7730	3263
NAS 2-7785	1533
NAS 2-7839	1103
NAS 2-7846	2900
NAS 2-7850	3135
NAS 2-7927	2112
NAS 2-7963	2941
NAS 2-7969	1704
NAS 2-8108	3573
NAS 2-8200	1803
NAS 2-8496	2802
NAS 2-8541	3737
NAS 2-8578	3163
NAS 2-8590	2017
NAS 2-8676	3381
NAS 2-8685	1511
NAS 2-8687	2018
NAS 2-8706	2901
NAS 2-8752	3773
NAS 2-8802	3522
NAS 2-8808	1534
NAS 2-8812	2617
NAS 2-8813	3774
NAS 2-8816	1758
NAS 2-8818	1104
NAS 2-8883	2224
NAS 2-8898	1336
NAS 2-8925	1269
NAS 2-8954	3110
NAS 2-8977	2419
NAS 2-8983	1287
NAS 2-8986	3005
NAS 2-8992	2551
NAS 2-9002	1337
NAS 2-9072	3445
NAS 2-9083	1338
NAS 2-9126	2552
NAS 2-9127	2380
NAS 2-9128	1535
NAS 2-9129	2534
NAS 2-9130	2553
NAS 2-9131	1536
NAS 2-9132	2420
NAS 2-9151	2421
NAS 2-9175	2019
NAS 3-14336	1339
NAS 3-17534	2422
NAS 3-17826	3151
NAS 3-17827	1961
NAS 3-17855	3227
NAS 3-17857	1705
NAS 3-18010	2113
NAS 3-18522	2815
NAS 3-18547	3105
NAS 3-18553	3692
NAS 3-18901	1962
NAS 3-18929	3197
NAS 3-19431	2679
NAS 3-19434	2816
NAS 3-19533	2554
NAS 3-19699	3147
NAS 3-19700	1963
NAS 3-19725	3767
NAS 3-19850	1512
NAS 3-20051	2555
NAS 3-20087	2143
NAS 3-20110	1964
NAS 3-20365	3148

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NAS 4-1995	1537
NAS 4-2148	2187
NAS 5-1810	2753
NAS 5-1925	3818
NAS 5-3838	2618
NAS 5-3949	2381
NAS 5-9317	3382
NAS 5-10102	1340
NAS 5-11062	2423
NAS 5-11063	2299
NAS 5-11064	2169
NAS 5-11066	1189
NAS 5-11067	2052
NAS 5-11080	1595
NAS 5-11081	1596
NAS 5-11082	2424
NAS 5-11167	2170
NAS 5-11173	2619
NAS 5-11265	2171
NAS 5-11276	2736
NAS 5-11279	2172
NAS 5-11310	2620
NAS 5-11376	2556
NAS 5-11380	2557
NAS 5-11405	1759
NAS 5-11406	3523
NAS 5-11407	3524
NAS 5-11415	2278
NAS 5-11431	2173
NAS 5-11438	2621
NAS 5-11450	2425
NAS 5-11674	1538
NAS 5-11687	2622
NAS 5-11694	2737
NAS 5-20023	2863
NAS 5-20028	3035
NAS 5-20062	2300
NAS 5-20064	1539
NAS 5-20068	3775
NAS 5-20079	1442
NAS 5-20080	1443
NAS 5-20093	2174
NAS 5-20094	2175
NAS 5-20492	1190
NAS 5-20521	3111
NAS 5-20539	2176
NAS 5-20622	2558
NAS 5-20672	3329
NAS 5-20674	2053
NAS 5-20680	2707
NAS 5-20681	2803
NAS 5-20705	2902
NAS 5-20721	1191
NAS 5-20764	2382
NAS 5-20793	2114
NAS 5-20796	3405
NAS 5-20803	1083
NAS 5-20806	2559

GRANT/ CONTRACT NUMBER	ACC NO.
NAS 5-20810	1174
NAS 5-20814	2721
NAS 5-20818	2688
NAS 5-20826	2689
NAS 5-20833	2754
NAS 5-20834	2301
NAS 5-20837	2623
NAS 5-20838	1444
NAS 5-20839	2560
NAS 5-20841	1823
NAS 5-20865	3210
NAS 5-20871	1341
NAS 5-20883	2242
NAS 5-20884	2738
NAS 5-20885	3132
NAS 5-20914	1760
NAS 5-20915	1084
NAS 5-20916	2796
NAS 5-20922	2115
NAS 5-20939	2561
NAS 5-20943	2188
NAS 5-20946	3479
NAS 5-20948	1761
NAS 5-20955	3558
NAS 5-20956	1965
NAS 5-20959	1085
NAS 5-20961	2844
NAS 5-20967	2054
NAS 5-20969	1445
NAS 5-20974	3776
NAS 5-20982	3315
NAS 5-20983	1831
NAS 5-20987	1342
NAS 5-20995	1446
NAS 5-20999	3664
NAS 5-21055	1597
NAS 5-21505	1706
NAS 5-21798	3777
NAS 5-21833	1086
NAS 5-21871	2535
NAS 5-21960	1343
NAS 5-21965	3778
NAS 5-21970	1835
NAS 5-21980	2426
NAS 5-21982	3480
NAS 5-21983	3112
NAS 5-21984	3693
NAS 5-22277	3027
NAS 5-22304	3228
NAS 5-22307	1447
NAS 5-22311	2864
NAS 5-22319	3180
NAS 5-22325	2189
NAS 5-22341	2865
NAS 5-22343	2383
NAS 5-22344	1966
NAS 5-22346	3665
NAS 5-22349	3779

GRANT/ CONTRACT NUMBER	ACC NO.
NAS 5-22360	2755
NAS 5-22372	1723
NAS 5-22374	2384
NAS 5-22375	1598
NAS 5-22379	3738
NAS 5-22383	1894
NAS 5-22384	2190
NAS 5-22392	2847
NAS 5-22408	2866
NAS 5-22409	1762
NAS 5-22410	3780
NAS 5-22417	1935
NAS 5-22422	1967
NAS 5-22440	1763
NAS 5-22441	2562
NAS 5-22475	3046
NAS 5-22482	2756
NAS 5-22485	2427
NAS 5-22495	3350
NAS 5-22529	2841
NAS 5-22534	3406
NAS 5-22537	2302
NAS 5-22539	1817
NAS 5-22555	1192
NAS 5-22556	1599
NAS 5-22575	3113
NAS 5-22576	3481
NAS 5-22577	3694
NAS 5-22578	1907
NAS 5-22581	2303
NAS 5-22586	2903
NAS 5-22587	2563
NAS 5-22599	1105
NAS 5-22816	2116
NAS 5-22822	3229
NAS 5-22833	1764
NAS 5-22835	2304
NAS 5-22840	3407
NAS 5-22861	2564
NAS 5-22875	2565
NAS 5-22878	2305
NAS 5-22890	2867
NAS 5-22892	3271
NAS 5-22903	2722
NAS 5-22908	1916
NAS 5-22915	2428
NAS 5-22929	2429
NAS 5-22936	2868
NAS 5-22939	1193
NAS 5-22946	3205
NAS 5-22959	1724
NAS 5-22960	1765
NAS 5-22963	1936
NAS 5-22964	1513
NAS 5-22965	1194
NAS 5-22966	3408
NAS 5-22981	1804
NAS 5-22987	2101

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NAS 5-22989	2757
NAS 5-22994	2371
NAS 5-23006	2566
NAS 5-23125	2723
NAS 5-23133	3230
NAS 5-23176	1106
NAS 5-23190	1805
NAS 5-23199	2385
NAS 5-23230	2567
NAS 5-23236	2904
NAS 5-23237	2306
NAS 5-23249	1273
NAS 5-23267	2568
NAS 5-23274	1766
NAS 5-23284	2758
NAS 5-23285	3781
NAS 5-23287	1195
NAS 5-23296	3782
NAS 5-23315	1196
NAS 5-23316	2279
NAS 5-23338	3383
NAS 5-23346	1767
NAS 5-23371	2386
NAS 5-23380	3114
NAS 5-23386	2759
NAS 5-23387	2760
NAS 5-23457	2307
NAS 5-23458	3409
NAS 5-23462	3783
NAS 5-23470	3314
NAS 5-23479	3264
NAS 5-23481	1600
NAS 5-23493	2739
NAS 5-23494	2387
NAS 5-23496	3666
NAS 5-23500	3784
NAS 5-23520	2541
NAS 5-23522	1344
NAS 5-23557	2613
NAS 5-23558	2293
NAS 5-23571	2001
NAS 5-23576	2761
NAS 5-23577	1768
NAS 5-23603	1968
NAS 5-23615	1197
NAS 5-23618	1345
NAS 5-23623	2869
NAS 5-23624	2430
NAS 6-1667	3384
NAS 6-2388	3695
NAS 6-2439	2848
NAS 6-2454	3482
NAS 6-2455	2870
NAS 6-2456	3149
NAS 6-2463	1540
NAS 6-2484	3115
NAS 6-2498	3559
NAS 6-2506	1601
NAS 6-2519	2871
NAS 6-2595	2366
NAS 6-2602	3231
NAS 6-2613	2117
NAS 6-2617	3057
NAS 6-2627	3560
NAS 6-2686	2804
NAS 6-2695	2118
NAS 6-2703	1541
NAS 6-2706	2280
NAS 6-2707	3591
NAS 6-2726	3232
NAS 8-20172	1069
NAS 8-20247	1917
NAS 8-20765	1015
NAS 8-21140	3233
NAS 8-24908	1041
NAS 8-24953	1042
NAS 8-25562	1070
NAS 8-26146	2971
NAS 8-26379	3410
NAS 8-26601	3074
NAS 8-26749	2659
NAS 8-26751	3411
NAS 8-26758	1665
NAS 8-26930	1016
NAS 8-27296	3330
NAS 8-27334	3234
NAS 8-27799	1674
NAS 8-27809	1043
NAS 8-27972	2431
NAS 8-27974	1602
NAS 8-27975	2432
NAS 8-27976	2708
NAS 8-27977	2624
NAS 8-27978	1198
NAS 8-28015	1603
NAS 8-28058	1011
NAS 8-28097	1044
NAS 8-28098	1071
NAS 8-28248	1045
NAS 8-28304	1046
NAS 8-28307	2972
NAS 8-28310	1542
NAS 8-28358	1543
NAS 8-28590	1725
NAS 8-28654	3211
NAS 8-28660	3309
NAS 8-28661	1107
NAS 8-28733	3785
NAS 8-29100	1072
NAS 8-29271	3331
NAS 8-29286	3043
NAS 8-29313	1199
NAS 8-29316	1047
NAS 8-29387	3786
NAS 8-29494	1073
NAS 8-29543	1048
NAS 8-29566	1108
NAS 8-29582	3412
NAS 8-29583	1726
NAS 8-29584	3332
NAS 8-29603	1448
NAS 8-29632	3333
NAS 8-29725	3764
NAS 8-29764	3413
NAS 8-29823	2607
NAS 8-29847	1707
NAS 8-29852	1017
NAS 8-29856	1018
NAS 8-29881	1019
NAS 8-29936	1074
NAS 8-29937	1075
NAS 8-30246	1969
NAS 8-30247	1049
NAS 8-30248	1020
NAS 8-30250	1727
NAS 8-30251	2989
NAS 8-30252	1876
NAS 8-30253	3561
NAS 8-30301	2433
NAS 8-30380	2243
NAS 8-30479	1076
NAS 8-30534	1970
NAS 8-30537	2434
NAS 8-30561	1012
NAS 8-30563	1050
NAS 8-30576	2435
NAS 8-30578	2973
NAS 8-30579	1544
NAS 8-30617	1971
NAS 8-30618	2660
NAS 8-30619	2009
NAS 8-30620	2244
NAS 8-30623	2661
NAS 8-30624	1077
NAS 8-30625	2569
NAS 8-30653	1972
NAS 8-30654	1021
NAS 8-30656	3352
NAS 8-30657	1973
NAS 8-30752	2436
NAS 8-30753	2872
NAS 8-30772	1051
NAS 8-30774	1052
NAS 8-30880	1013
NAS 8-30883	3353
NAS 8-30884	2000
NAS 8-30885	1053
NAS 8-30886	1078
NAS 8-30887	3192
NAS 8-30919	1974
NAS 8-31006	2225
NAS 8-31143	3334
NAS 8-31145	1604
NAS 8-31149	2437

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.	GRANT/ CONTRACT NUMBER	ACC NO.	GRANT/ CONTRACT NUMBER	ACC NO.
NAS 8-31150	2690	NAS 8-31681	3152	NAS 9-12280	2038
NAS 8-31169	1054	NAS 8-31688	1731	NAS 9-12334	2440
NAS 8-31170	1055	NAS 8-31702	3265	NAS 9-12434	3417
NAS 8-31171	1056	NAS 8-31703	3272	NAS 9-12466	1666
NAS 8-31172	1948	NAS 8-31705	2974	NAS 9-12485	2441
NAS 8-31174	1057	NAS 8-31706	3212	NAS 9-12560	2626
NAS 8-31189	3320	NAS 8-31707	3213	NAS 9-12568	3485
NAS 8-31190	1022	NAS 8-31708	2859	NAS 9-12770	3029
NAS 8-31192	1109	NAS 8-31709	2860	NAS 9-12776	3388
NAS 8-31193	1975	NAS 8-31710	1545	NAS 9-12777	3448
NAS 8-31194	1058	NAS 8-31711	2843	NAS 9-12912	3389
NAS 8-31195	3116	NAS 8-31718	3335	NAS 9-13029	3739
NAS 8-31196	1110	NAS 8-31729	1062	NAS 9-13102	3544
NAS 8-31223	1023	NAS 8-31731	1014	NAS 9-13196	1182
NAS 8-31233	2233	NAS 8-31767	2691	NAS 9-13262	3449
NAS 8-31234	3414	NAS 8-31768	1063	NAS 9-13313	2177
NAS 8-31235	3206	NAS 8-31769	1347	NAS 9-13380	2119
NAS 8-31237	1728	NAS 8-31770	2664	NAS 9-13452	3358
NAS 8-31252	3325	NAS 8-31771	1176	NAS 9-13512	3527
NAS 8-31292	2998	NAS 8-31772	2571	NAS 9-13540	3359
NAS 8-31293	1059	NAS 8-31773	3416	NAS 9-13589	1514
NAS 8-31294	3150	NAS 8-31775	3525	NAS 9-13642	2849
NAS 8-31321	1060	NAS 8-31776	2729	NAS 9-13669	3304
NAS 8-31332	3415	NAS 8-31780	2732	NAS 9-13680	3486
NAS 8-31333	3173	NAS 8-31801	1087	NAS 9-13737	3360
NAS 8-31343	1079	NAS 8-31802	3079	NAS 9-13743	3740
NAS 8-31344	1976	NAS 8-31839	1605	NAS 9-13803	3273
NAS 8-31345	1061	NAS 8-31849	2692	NAS 9-13844	1035
NAS 8-31346	1449	NAS 8-31850	1977	NAS 9-13878	3321
NAS 8-31347	1729	NAS 8-31895	1064	NAS 9-13894	3418
NAS 8-31350	2438	NAS 8-31897	2724	NAS 9-13904	3419
NAS 8-31373	2662	NAS 8-31899	3194	NAS 9-13940	2850
NAS 8-31374	2388	NAS 8-31902	2990	NAS 9-13945	1088
NAS 8-31377	3174	NAS 8-31907	3080	NAS 9-14006	3305
NAS 8-31378	1769	NAS 8-31948	1112	NAS 9-14016	2120
NAS 8-31386	3193	NAS 8-31958	1771	NAS 9-14052	2192
NAS 8-31397	2570	NAS 8-31979	1080	NAS 9-14197	3420
NAS 8-31413	2281	NAS 8-31980	3336	NAS 9-14209	3450
NAS 8-31434	2999	NAS 8-31984	3058	NAS 9-14251	1177
NAS 8-31441	2731	NAS 8-31987	2572	NAS 9-14322	3361
NAS 8-31459	3483	NAS 8-31990	1978	NAS 9-14347	3451
NAS 8-31470	2728	NAS 8-32030	3386	NAS 9-14368	3362
NAS 8-31510	2625	NAS 8-32067	3811	NAS 9-14384	3452
NAS 8-31513	2938	NAS 8-32118	3337	NAS 9-14392	2226
NAS 8-31537	1111	NAS 9-5886	2308	NAS 9-14396	1667
NAS 8-31538	2696	NAS 9-6037	2873	NAS 9-14405	3487
NAS 8-31549	2389	NAS 9-6164	1708	NAS 9-14406	3363
NAS 8-31550	1175	NAS 9-9317	2249	NAS 9-14407	3364
NAS 8-31552	2439	NAS 9-9690	3186	NAS 9-14419	1450
NAS 8-31564	3326	NAS 9-10261	2191	NAS 9-14438	3442
NAS 8-31565	2013	NAS 9-10537	3356	NAS 9-14452	1451
NAS 8-31566	3484	NAS 9-11162	3441	NAS 9-14453	2193
NAS 8-31568	2663	NAS 9-11201	3357	NAS 9-14467	1732
NAS 8-31571	1346	NAS 9-11676	3446	NAS 9-14468	3365
NAS 8-31572	1024	NAS 9-11827	3387	NAS 9-14470	3421
NAS 8-31619	1770	NAS 9-11845	3447	NAS 9-14478	3422
NAS 8-31673	1730	NAS 9-11846	3028	NAS 9-14491	3488
NAS 8-31679	3385	NAS 9-12074	3526	NAS 9-14493	3423

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NAS 9-14499	3552
NAS 9-14533	2180
NAS 9-14534	3453
NAS 9-14538	3108
NAS 9-14546	3366
NAS 9-14556	3424
NAS 9-14565	1452
NAS 9-14603	3367
NAS 9-14629	3454
NAS 9-14632	2234
NAS 9-14640	3195
NAS 9-14641	3545
NAS 9-14652	3455
NAS 9-14662	3368
NAS 9-14689	3425
NAS 9-14692	1113
NAS 9-14696	1515
NAS 9-14697	3075
NAS 9-14715	3369
NAS 9-14716	1348
NAS 9-14765	1733
NAS 9-14770	1000
NAS 9-14809	3562
NAS 9-14810	3489
NAS 9-14816	1654
NAS 9-14817	3426
NAS 9-14820	3370
NAS 9-14821	3427
NAS 9-14828	3428
NAS 9-14848	2697
NAS 9-14857	3456
NAS 9-14860	3181
NAS 9-14862	3696
NAS 9-14871	3574
NAS 9-14874	3475
NAS 9-14875	3429
NAS 9-14892	3490
NAS 9-14898	3430
NAS 9-14899	2181
NAS 9-14904	3431
NAS 9-14918	3351
NAS 9-14921	1173
NAS 9-14931	2874
NAS 9-14970	2121
NAS 9-14979	3262
NAS 9-15000	3457
NAS 9-15046	3371
NAS 9-95469	2805
NASW 7	3825
NASW 1761	3823
NASW 1964	3167
NASW 2326	2020
NASW 2399	2817
NASW 2425	3274
NASW 2435	3117
NASW 2467	2102
NASW 2512	3168
NASW 2516	1818

GRANT/ CONTRACT NUMBER	ACC NO.
NASW 2573	2905
NASW 2607	1806
NASW 2629	3169
NASW 2633	2818
NASW 2648	3563
NASW 2658	2014
NASW 2674	3275
NASW 2691	3458
NASW 2714	2103
NASW 2716	3787
NASW 2742	2021
NASW 2750	2906
NASW 2766	1807
NASW 2768	1856
NASW 2771	1709
NASW 2787	2442
NASW 2793	3072
NASW 2801	2022
NASW 2805	2819
NASW 2819	3788
NASW 2820	2015
NASW 2827	3294
NASW 2835	1250
NASW 2838	3276
NASW 2845	2104
NASW 2881	3170
NASW 2890	1857
NASW 2892	1808
NASW 2906	1877
NASW 2913	1772
NASW 2916	1349
NASW 2928	2806
NASW 2938	2390
NAS10-7399	2807
NAS10-8354	3310
NAS10-8375	1979
NAS10-8399	1903
NAS10-8518	1114
NAS10-8600	1937
NAS10-8712	2808
NAS10-8740	1938
NAS10-8774	1918
NAS10-8795	1939
NAS10-8920	1919
NAS10-8926	1940
NAS10-8934	1911
NAS10-8954	1941
NAS10-8986	1912
NAS13-10	2665
NAS13-21	2666
NAS13-23	2680
NAS13-38	2245
NCA 1-1	3594
NCA 2-35601	1093
NCA 2-35602	1094
NCA 2-40502	1115
NCA 2-40503	1116
NCA 2-40504	1117

GRANT/ CONTRACT NUMBER	ACC NO.
NCA 2-40601	1118
NCA 2-40602	1119
NCA 2-40604	1120
NCA 2-45501	1180
NCA 2-45601	1181
NCA 2-50302	1453
NCA 2-50406	1454
NCA 2-50501	1455
NCA 2-50502	1456
NCA 2-50503	1457
NCA 2-50504	1458
NCA 2-50508	1459
NCA 2-50509	1460
NCA 2-50510	1461
NCA 2-50603	1462
NCA 2-50605	1463
NCA 2-50606	1464
NCA 2-50607	1465
NCA 2-75602	2845
NCA 2-110502	1251
NCA 2-110504	1252
NCA 2-110601	1253
NCA 2-110602	1254
NCA 2-165502	1734
NCA 2-165503	1735
NCA 2-165603	1736
NCA 2-165604	1737
NCA 2-180501	1516
NCA 2-180502	1517
NCA 2-180503	1518
NCA 2-180504	1519
NCA 2-180505	1520
NCA 2-180506	1521
NCA 2-180601	1522
NCA 2-180605	1523
NCA 2-180607	1524
NCA 2-240501	1920
NCA 2-253601	1256
NCA 2-290401	1258
NCA 2-290501	1259
NCA 2-290601	1260
NCA 2-290602	1261
NCA 2-295502	3459
NCA 2-295503	3460
NCA 2-295601	3461
NCA 2-295602	3462
NCA 2-335501	2105
NCA 2-335601	2106
NCA 2-340405	2149
NCA 2-340406	2150
NCA 2-340501	2151
NCA 2-340502	2152
NCA 2-340503	2153
NCA 2-340504	2154
NCA 2-340505	2155
NCA 2-340506	2156
NCA 2-340601	2157
NCA 2-340602	2158

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NCA 2-340603	2159
NCA 2-340604	2160
NCA 2-350501	2748
NCA 2-350601	2749
NCA 2-363501	2182
NCA 2-363601	2183
NCA 2-380501	3214
NCA 2-385502	1264
NCA 2-390402	1546
NCA 2-390405	1547
NCA 2-390501	1548
NCA 2-390502	1549
NCA 2-390503	1550
NCA 2-390601	1551
NCA 2-390602	1552
NCA 2-420403	2309
NCA 2-420501	2310
NCA 2-420701	2311
NCA 2-440601	2573
NCA 2-450501	2698
NCA 2-450601	2699
NCA 2-450602	2700
NCA 2-450603	2701
NCA 2-450604	2693
NCA 2-510502	2820
NCA 2-585501	3177
NCA 2-585601	3178
NCA 2-587601	3187
NCA 2-595501	2959
NCA 2-605501	2122
NCA 2-660410	1276
NCA 2-660411	1277
NCA 2-660501	1278
NCA 2-660502	1279
NCA 2-660504	1280
NCA 2-660505	1281
NCA 2-660506	1282
NCA 2-660601	1283
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NCA 2-660603	1285
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NCA 2-665401	1647
NCA 2-665402	1648
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NCA 2-675410	1293
NCA 2-675411	1294
NCA 2-675413	1295
NCA 2-675414	1296
NCA 2-675505	1297
NCA 2-675506	1298
NCA 2-675509	1299
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NCA 2-675521	1307
NCA 2-675601	1308
NCA 2-675602	1309
NCA 2-675603	1310
NCA 2-675605	1311
NCA 2-675606	1312
NCA 2-675607	1313
NCA 2-675608	1314
NCA 2-675610	1315
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NCA 2-675614	1319
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NCA 2-675616	1321
NCA 2-675618	1322
NCA 2-678601	1248
NCA 2-680601	1655
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NCA 2-685409	1677
NCA 2-685501	1678
NCA 2-685502	1679
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NCA 2-685507	1681
NCA 2-685508	1682
NCA 2-685509	1683
NCA 2-685510	1684
NCA 2-685601	1685
NCA 2-685603	1686
NCA 2-685605	1687
NCA 2-685606	1688
NCA 2-685610	1689
NCA 2-685614	1690
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NCA 2-720601	1249
NCA 2-730501	1710
NCA 2-730601	1711
NCA 2-745414	1350
NCA 2-745418	1351
NCA 2-745426	1352
NCA 2-745503	1353
NCA 2-745504	1354
NCA 2-745506	1355
NCA 2-745508	1356
NCA 2-745509	1357
NCA 2-745510	1358
NCA 2-745511	1359
NCA 2-745512	1360
NCA 2-745513	1361
NCA 2-745514	1362
NCA 2-745515	1363
NCA 2-745516	1364
NCA 2-745517	1365
NCA 2-745518	1366
NCA 2-745519	1367
NCA 2-745520	1368
NCA 2-745521	1369
NCA 2-745601	1370
NCA 2-745602	1371
NCA 2-745603	1372
NCA 2-745604	1373
NCA 2-745605	1374
NCA 2-745606	1375
NCA 2-745607	1376
NCA 2-745610	1377
NCA 2-745613	1378
NCA 2-745614	1379
NCA 2-760601	3006
NCA 2-773501	3432
NCA 2-785401	2528
NCA 2-785501	2529
NCA 2-785601	2530
NCA 2-800402	2259
NCA 2-800501	2260
NCA 2-810601	1036
NCA 2-820501	3575
NCA 2-821601	3564
NCA 2-823501	3040
NCA 2-823601	3041
NCA 2-825501	3667
NCA 2-850501	3741
NCA 2-850602	3742
NCA 5-1	2312
NCA 5-3	2313
NCA 5-4	2314
NCA 5-6	2315
NCA 5-7	2316
NCA 5-8	1121
NCA 5-10	2317
NCA 5-11	2318
NCA 5-12	1122
NCA 5-14	1878
NCA 5-31	2821
NCA 5-32	2822
NCA 5-34	2823
NCA 5-36	2824
NCA 5-37	1123
NCA 5-38	1124
NCA 5-39	1125
NCA 5-40	1895
NCA 5-41	2825
NCA 5-43	2797
NCA 5-47	1126
NCA 5-48	2798
NCA 5-55	2826

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NCA 5-56	2827
NCA 5-57	2828
NCA 5-58	2799
NCA 5-59	2800
NCA 5-62	1127
NCA 8-101	2098
NCA 8-102	3327
NCA 8-103	2099
NCA 8-106	1025
NCA 8-107	2667
NCA 8-108	1026
NCA 8-109	1027
NCA 8-120	1028
NCA 8-121	2100
NCA 8-123	3215
NCA 8-124	1029
NGF 12-001-102	2023
NGL 01-008-001	1065
NGL 02-001-092	1089
NGL 03-001-001	1095
NGL 03-002-002	1128
NGL 03-002-006	1129
NGL 03-002-017	1130
NGL 03-002-019	1131
NGL 03-002-032	1132
NGL 03-002-081	1133
NGL 03-002-122	1134
NGL 03-002-191	1135
NGL 03-002-313	1136
NGL 04-001-007	1178
NGL 05-002-003	1200
NGL 05-002-007	1201
NGL 05-002-034	1202
NGL 05-002-069	1203
NGL 05-002-105	1204
NGL 05-002-134	1205
NGL 05-002-136	1206
NGL 05-002-140	1207
NGL 05-002-187	1208
NGL 05-002-188	1209
NGL 05-002-190	1210
NGL 05-002-207	1211
NGL 05-002-229	1212
NGL 05-002-338	1213
NGL 05-003-003	1466
NGL 05-003-017	1467
NGL 05-003-024	1468
NGL 05-003-272	1469
NGL 05-003-286	1470
NGL 05-003-404	1471
NGL 05-003-409	1472
NGL 05-003-410	1473
NGL 05-003-497	1474
NGL 05-004-008	1525
NGL 05-005-003	1606
NGL 05-005-004	1607
NGL 05-005-007	1608
NGL 05-007-002	1553

GRANT/ CONTRACT NUMBER	ACC NO.
NGL 05-007-003	1554
NGL 05-007-004	1555
NGL 05-007-005	1556
NGL 05-007-006	1557
NGL 05-007-190	1558
NGL 05-007-330	1559
NGL 05-007-367	1560
NGL 05-007-379	1561
NGL 05-008-005	1592
NGL 05-009-002	1609
NGL 05-009-004	1610
NGL 05-009-005	1611
NGL 05-809-109	1612
NGL 05-009-148	1613
NGL 05-009-150	1614
NGL 05-009-230	1615
NGL 05-018-118	1712
NGL 05-020-007	1380
NGL 05-020-008	1381
NGL 05-020-014	1382
NGL 05-020-103	1383
NGL 05-020-134	1384
NGL 05-020-176	1385
NGL 05-020-242	1386
NGL 05-020-243	1387
NGL 05-020-272	1388
NGL 05-020-305	1389
NGL 05-020-397	1390
NGL 05-020-498	1391
NGL 05-020-582	1392
NGL 05-025-014	1652
NGL 05-046-002	1323
NGL 06-001-015	1720
NGL 06-003-052	1773
NGL 06-003-057	1774
NGL 06-003-064	1775
NGL 06-003-200	1776
NGL 07-004-005	1824
NGL 07-004-043	1825
NGL 09-010-053	1858
NGL 09-011-017	1879
NGL 09-011-046	1880
NGL 10-005-008	1921
NGL 10-005-022	1922
NGL 10-005-089	1923
NGL 10-005-127	1924
NGL 11-001-009	1954
NGL 11-002-004	1980
NGL 11-002-096	1981
NGL 11-008-001	2002
NGL 12-001-011	2024
NGL 12-001-042	2025
NGL 12-001-057	2026
NGL 14-001-001	2055
NGL 14-001-005	2056
NGL 14-001-006	2057
NGL 14-001-010	2058
NGL 14-001-167	2059

GRANT/ CONTRACT NUMBER	ACC NO.
NGL 14-001-169	2060
NGL 14-001-171	2061
NGL 14-001-258	2062
NGL 14-005-140	2076
NGL 14-007-016	2039
NGL 14-007-041	2040
NGL 14-007-058	2041
NGL 14-007-081	2042
NGL 15-003-002	2107
NGL 15-003-117	2108
NGL 15-005-140	2123
NGL 15-005-175	2124
NGL 15-005-186	2125
NGL 16-001-002	2178
NGL 16-001-043	2179
NGL 17-001-026	2184
NGL 17-004-024	2194
NGL 18-001-042	2227
NGL 19-001-097	2246
NGL 19-001-105	2247
NGL 19-002-027	2261
NGL 21-002-005	2319
NGL 21-002-033	2320
NGL 21-002-367	2321
NGL 22-007-006	2391
NGL 22-007-069	2392
NGL 22-007-117	2393
NGL 22-007-228	2394
NGL 22-007-247	2395
NGL 22-009-003	2443
NGL 22-009-013	2444
NGL 22-009-015	2445
NGL 22-009-016	2446
NGL 22-009-019	2447
NGL 22-009-124	2448
NGL 22-009-125	2449
NGL 22-009-187	2450
NGL 22-009-308	2451
NGL 22-009-383	2452
NGL 22-009-521	2453
NGL 22-009-548	2454
NGL 22-009-638	2455
NGL 22-009-640	2456
NGL 22-010-018	2536
NGL 22-010-023	2537
NGL 22-010-025	2538
NGL 22-010-089	2539
NGL 23-004-083	2544
NGL 23-005-005	2574
NGL 23-005-010	2575
NGL 23-005-275	2576
NGL 24-005-008	2627
NGL 24-005-009	2628
NGL 24-005-160	2629
NGL 24-005-225	2630
NGL 24-005-263	2631
NGL 25-001-040	2668
NGL 25-001-054	2669

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NGL 25-005-007	2681
NGL 26-004-021	2694
NGL 26-006-021	2684
NGL 26-008-054	2709
NGL 26-008-057	2710
NGL 26-008-065	2711
NGL 28-004-020	2725
NGL 30-002-018	2740
NGL 30-002-021	2741
NGL 31-001-005	2762
NGL 31-001-007	2763
NGL 31-001-146	2764
NGL 31-001-252	2765
NGL 31-001-283	2766
NGL 31-006-010	2745
NGL 31-006-011	2746
NGL 32-003-001	2809
NGL 32-003-069	2810
NGL 32-004-011	2829
NGL 32-004-042	2830
NGL 32-004-063	2831
NGL 32-004-064	2832
NGL 33-010-005	2907
NGL 33-010-064	2908
NGL 33-010-082	2909
NGL 33-010-171	2910
NGL 33-010-186	2911
NGL 33-013-034	2851
NGL 33-013-040	2852
NGL 33-015-082	3007
NGL 33-015-130	3008
NGL 33-015-174	3009
NGL 33-016-013	2942
NGL 33-016-119	2943
NGL 33-018-003	2975
NGL 33-018-007	2976
NGL 33-018-091	2977
NGL 33-023-018	3042
NGL 33-183-013	3000
NGL 34-001-001	3047
NGL 34-002-017	3059
NGL 34-002-095	3060
NGL 36-003-064	3081
NGL 36-003-094	3082
NGL 36-008-051	3118
NGL 36-008-093	3119
NGL 36-008-138	3120
NGL 38-002-020	3182
NGL 38-002-039	3183
NGL 38-002-053	3184
NGL 38-003-022	3188
NGL 39-007-007	3216
NGL 39-009-001	3235
NGL 39-009-002	3236
NGL 39-009-003	3237
NGL 39-009-007	3238
NGL 39-009-010	3239
NGL 39-009-032	3240
NGL 39-009-172	3241
NGL 39-011-013	3277
NGL 39-011-030	3278
NGL 39-011-035	3279
NGL 39-011-085	3280
NGL 39-011-160	3281
NGL 41-002-003	3311
NGL 42-003-007	3316
NGL 43-001-006	3338
NGL 43-001-140	3339
NGL 44-001-001	3433
NGL 44-004-001	3528
NGL 44-004-026	3529
NGL 44-004-130	3530
NGL 44-005-041	3463
NGL 44-005-090	3464
NGL 44-006-001	3390
NGL 44-006-012	3391
NGL 44-006-127	3392
NGL 44-012-006	3491
NGL 44-012-045	3492
NGL 44-012-055	3493
NGL 44-012-133	3494
NGL 44-084-003	3549
NGL 45-003-025	3565
NGL 45-003-037	3566
NGL 47-002-005	3685
NGL 47-002-020	3686
NGL 47-003-008	3608
NGL 47-003-012	3609
NGL 47-003-039	3610
NGL 47-003-067	3611
NGL 47-004-067	3697
NGL 47-004-080	3698
NGL 47-005-066	3668
NGL 47-006-058	3584
NGL 47-014-009	3733
NGL 48-002-004	3743
NGL 48-002-010	3744
NGL 48-002-035	3745
NGL 48-002-044	3746
NGL 48-002-047	3747
NGL 50-002-013	3789
NGL 50-002-044	3790
NGL 50-002-127	3791
NGR 01-001-003	1001
NGR 01-001-023	1002
NGR 01-001-025	1003
NGR 01-007-009	1034
NGR 01-008-015	1066
NGR 01-010-001	1040
NGR 02-001-087	1090
NGR 03-002-071	1137
NGR 03-002-107	1138
NGR 03-002-171	1139
NGR 03-002-219	1140
NGR 03-002-269	1141
NGR 03-002-332	1142
NGR 03-002-363	1143
NGR 03-002-370	1144
NGR 03-002-371	1145
NGR 03-002-372	1146
NGR 03-002-382	1147
NGR 03-002-388	1148
NGR 03-002-390	1149
NGR 04-008-001	1183
NGR 05-002-114	1214
NGR 05-002-117	1215
NGR 05-002-121	1216
NGR 05-002-142	1217
NGR 05-002-160	1218
NGR 05-002-185	1219
NGR 05-002-256	1220
NGR 05-002-281	1221
NGR 05-002-284	1222
NGR 05-002-294	1223
NGR 05-002-296	1224
NGR 05-002-303	1225
NGR 05-002-308	1226
NGR 05-002-310	1227
NGR 05-002-311	1228
NGR 05-002-333	1229
NGR 05-002-340	1230
NGR 05-002-345	1231
NGR 05-003-239	1475
NGR 05-003-309	1476
NGR 05-003-376	1477
NGR 05-003-435	1478
NGR 05-003-450	1479
NGR 05-003-451	1480
NGR 05-003-452	1481
NGR 05-003-460	1482
NGR 05-003-470	1483
NGR 05-003-471	1484
NGR 05-003-510	1485
NGR 05-003-511	1486
NGR 05-003-513	1487
NGR 05-003-553	1488
NGR 05-003-559	1489
NGR 05-003-562	1490
NGR 05-003-578	1491
NGR 05-003-587	1492
NGR 05-004-006	1526
NGR 05-004-099	1527
NGR 05-005-005	1616
NGR 05-005-055	1617
NGR 05-007-221	1562
NGR 05-007-276	1563
NGR 05-007-289	1564
NGR 05-007-317	1565
NGR 05-007-323	1566
NGR 05-007-328	1567
NGR 05-007-329	1568
NGR 05-007-337	1569
NGR 05-007-338	1570
NGR 05-007-351	1571

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NGR 05-007-395	1572
NGR 05-007-407	1573
NGR 05-007-414	1574
NGR 05-007-416	1575
NGR 05-007-418	1576
NGR 05-007-489	1577
NGR 05-008-022	1593
NGR 05-009-075	1618
NGR 05-009-076	1619
NGR 05-009-081	1620
NGR 05-009-083	1621
NGR 05-009-110	1622
NGR 05-009-178	1623
NGR 05-009-188	1624
NGR 05-009-198	1625
NGR 05-009-213	1626
NGR 05-009-218	1627
NGR 05-009-226	1628
NGR 05-009-239	1629
NGR 05-009-246	1630
NGR 05-009-257	1631
NGR 05-009-260	1632
NGR 05-009-264	1633
NGR 05-010-035	1656
NGR 05-010-062	1657
NGR 05-010-081	1658
NGR 05-017-010	1692
NGR 05-017-027	1693
NGR 05-017-031	1694
NGR 05-017-033	1695
NGR 05-017-037	1696
NGR 05-018-178	1713
NGR 05-018-180	1714
NGR 05-018-181	1715
NGR 05-018-185	1716
NGR 05-020-001	1393
NGR 05-020-004	1394
NGR 05-020-019	1395
NGR 05-020-345	1396
NGR 05-020-405	1397
NGR 05-020-407	1398
NGR 05-020-435	1399
NGR 05-020-452	1400
NGR 05-020-456	1401
NGR 05-020-510	1402
NGR 05-020-559	1403
NGR 05-020-615	1404
NGR 05-020-622	1405
NGR 05-020-632	1406
NGR 05-020-634	1407
NGR 05-020-649	1408
NGR 05-020-668	1409
NGR 05-020-671	1410
NGR 05-020-676	1411
NGR 05-020-690	1412
NGR 05-020-699	1413
NGR 05-020-710	1414
NGR 05-041-012	1529
NGR 05-046-011	1324
NGR 05-058-003	1267
NGR 05-061-015	1662
NGR 05-071-008	1257
NGR 05-084-002	1272
NGR 06-002-075	1738
NGR 06-002-095	1739
NGR 06-002-098	1740
NGR 06-002-102	1741
NGR 06-002-112	1742
NGR 06-002-127	1743
NGR 06-002-128	1744
NGR 06-002-147	1745
NGR 06-002-159	1746
NGR 06-002-191	1747
NGR 06-003-069	1777
NGR 06-003-127	1778
NGR 06-003-176	1779
NGR 06-003-179	1780
NGR 06-003-181	1781
NGR 06-003-199	1782
NGR 06-003-208	1783
NGR 06-003-215	1784
NGR 06-003-216	1785
NGR 06-003-219	1786
NGR 06-003-222	1787
NGR 06-004-058	1809
NGR 06-004-060	1810
NGR 06-004-123	1811
NGR 06-004-125	1812
NGR 07-004-009	1826
NGR 07-004-157	1827
NGR 07-004-166	1828
NGR 07-010-002	1816
NGR 08-002-005	1829
NGR 09-005-[illegible]	1836
NGR 09-005-063	1837
NGR 09-005-077	1838
NGR 09-005-099	1839
NGR 09-005-103	1840
NGR 09-010-064	1859
NGR 09-010-074	1860
NGR 09-010-078	1861
NGR 09-010-085	1862
NGR 09-010-096	1863
NGR 09-011-053	1881
NGR 09-011-055	1882
NGR 09-011-057	1883
NGR 09-050-001	1847
NGR 09-050-003	1848
NGR 09-050-010	1849
NGR 09-050-013	1850
NGR 09-050-019	1851
NGR 09-050-020	1852
NGR 09-053-002	1844
NGR 09-053-003	1845
NGR 09-059-002	1896
NGR 10-004-041	1908
NGR 10-004-056	1909
NGR 10-005-057	1925
NGR 10-005-169	1926
NGR 10-005-182	1927
NGR 10-007-008	1942
NGR 10-007-097	1943
NGR 10-007-118	1944
NGR 10-010-002	1898
NGR 10-015-008	1904
NGR 10-019-004	1913
NGR 10-019-009	1914
NGR 10-022-001	1897
NGR 11-001-012	1955
NGR 11-001-016	1956
NGR 11-001-045	1957
NGR 11-002-133	1982
NGR 11-002-169	1983
NGR 11-002-177	1984
NGR 11-002-179	1985
NGR 11-003-037	2016
NGR 12-001-075	2027
NGR 12-001-109	2028
NGR 12-001-127	2029
NGR 14-001-008	2063
NGR 14-001-135	2064
NGR 14-001-147	2065
NGR 14-001-164	2066
NGR 14-001-194	2067
NGR 14-001-211	2068
NGR 14-001-225	2069
NGR 14-001-227	2070
NGR 14-001-249	2071
NGR 14-005-144	2077
NGR 14-005-149	2078
NGR 14-005-176	2079
NGR 14-005-181	2080
NGR 14-005-193	2081
NGR 14-005-194	2082
NGR 14-005-200	2083
NGR 14-005-202	2084
NGR 14-005-221	2085
NGR 14-007-084	2043
NGR 14-007-122	2044
NGR 14-007-131	2045
NGR 14-007-136	2046
NGR 14-008-026	2050
NGR 15-003-007	2109
NGR 15-003-105	2110
NGR 15-003-118	2111
NGR 15-005-119	2126
NGR 15-005-147	2127
NGR 15-005-157	2128
NGR 15-005-162	2129
NGR 15-005-180	2130
NGR 15-005-191	2131
NGR 16-002-038	2161
NGR 17-002-072	2195
NGR 17-002-106	2196

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NGR 17-003-018	2216
NGR 17-003-021	2217
NGR 17-004-027	2197
NGR 18-001-058	2228
NGR 18-001-083	2229
NGR 18-001-086	2230
NGR 19-001-012	2248
NGR 19-002-030	2262
NGR 19-002-038	2263
NGR 19-005-003	2250
NGR 19-005-006	2251
NGR 19-007-004	2266
NGR 19-011-007	2238
NGR 19-011-012	2239
NGR 19-011-016	2240
NGR 21-001-001	2282
NGR 21-001-111	2283
NGR 21-001-115	2284
NGR 21-002-002	2322
NGR 21-002-007	2323
NGR 21-002-010	2297
NGR 21-002-066	2324
NGR 21-002-073	2325
NGR 21-002-096	2326
NGR 21-002-199	2327
NGR 21-002-224	2328
NGR 21-002-270	2329
NGR 21-002-291	2330
NGR 21-002-316	2331
NGR 21-002-317	2332
NGR 21-002-344	2333
NGR 21-002-368	2334
NGR 21-002-386	2335
NGR 21-002-390	2336
NGR 21-002-399	2337
NGR 21-002-400	2338
NGR 21-002-408	2339
NGR 21-002-433	2340
NGR 21-002-444	2341
NGR 21-025-011	2294
NGR 21-027-001	2268
NGR 21-027-004	2269
NGR 21-027-010	2270
NGR 21-119-001	2367
NGR 21-119-002	2368
NGR 21-119-003	2369
NGR 21-122-001	2274
NGR 22-004-018	2373
NGR 22-004-025	2374
NGR 22-004-030	2375
NGR 22-007-202	2396
NGR 22-007-242	2397
NGR 22-007-256	2398
NGR 22-007-257	2399
NGR 22-007-267	2400
NGR 22-007-269	2401
NGR 22-007-270	2402
NGR 22-007-272	2403
NGR 22-007-275	2404
NGR 22-007-285	2405
NGR 22-009-005	2457
NGR 22-009-102	2458
NGR 22-009-277	2459
NGR 22-009-339	2460
NGR 22-009-350	2461
NGR 22-009-378	2462
NGR 22-009-473	2463
NGR 22-009-526	2464
NGR 22-009-540	2465
NGR 22-009-551	2466
NGR 22-009-583	2467
NGR 22-009-627	2468
NGR 22-009-646	2469
NGR 22-009-672	2470
NGR 22-009-701	2471
NGR 22-009-718	2472
NGR 22-009-723	2473
NGR 22-009-727	2474
NGR 22-009-730	2475
NGR 22-009-733	2476
NGR 22-009-735	2477
NGR 22-009-741	2478
NGR 22-009-766	2479
NGR 22-009-778	2480
NGR 22-009-781	2481
NGR 22-009-785	2482
NGR 22-009-790	2483
NGR 22-009-798	2484
NGR 22-009-799	2485
NGR 22-009-805	2486
NGR 22-009-818	2487
NGR 22-009-826	2488
NGR 22-009-839	2489
NGR 22-010-076	2540
NGR 22-012-026	2531
NGR 23-004-091	2545
NGR 23-005-015	2577
NGR 23-005-094	2578
NGR 23-005-320	2579
NGR 23-005-360	2580
NGR 23-005-464	2581
NGR 23-005-523	2582
NGR 23-005-528	2583
NGR 23-005-536	2584
NGR 23-005-537	2585
NGR 23-005-540	2586
NGR 23-005-543	2587
NGR 23-005-617	2588
NGR 23-006-063	2608
NGR 24-005-050	2632
NGR 24-005-196	2633
NGR 24-005-223	2634
NGR 24-005-248	2635
NGR 24-005-253	2636
NGR 24-005-267	2637
NGR 25-001-050	2670
NGR 25-001-055	2671
NGR 25-005-005	2682
NGR 25-011-005	2653
NGR 25-012-001	2650
NGR 26-001-018	2695
NGR 26-004-097	2702
NGR 26-006-039	2685
NGR 26-006-042	2686
NGR 26-008-001	2712
NGR 27-001-040	2719
NGR 28-004-021	2726
NGR 28-004-025	2727
NGR 30-001-041	2733
NGR 30-002-052	2742
NGR 30-002-054	2743
NGR 30-002-104	2744
NGR 31-001-001	2767
NGR 31-001-152	2768
NGR 31-001-197	2769
NGR 31-001-202	2770
NGR 31-001-242	2771
NGR 31-001-267	2772
NGR 31-001-277	2773
NGR 31-001-306	2774
NGR 31-001-307	2775
NGR 31-001-312	2776
NGR 31-001-328	2777
NGR 32-004-026	2833
NGR 32-004-062	2834
NGR 32-004-068	2835
NGR 32-004-086	2836
NGR 33-006-047	2960
NGR 33-006-068	2961
NGR 33-006-070	2962
NGR 33-008-102	2875
NGR 33-008-146	2876
NGR 33-008-168	2877
NGR 33-008-177	2878
NGR 33-008-183	2879
NGR 33-008-189	2880
NGR 33-008-191	2881
NGR 33-008-194	2882
NGR 33-008-199	2883
NGR 33-008-200	2884
NGR 33-010-081	2912
NGR 33-010-101	2913
NGR 33-010-108	2914
NGR 33-010-137	2915
NGR 33-010-145	2916
NGR 33-010-146	2917
NGR 33-010-161	2918
NGR 33-010-172	2919
NGR 33-010-178	2920
NGR 33-010-179	2939
NGR 33-010-182	2921
NGR 33-010-188	2922
NGR 33-010-189	2923
NGR 33-010-210	2924

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NGR 33-010-220	2925
NGR 33-013-086	2853
NGR 33-015-002	3001
NGR 33-015-108	3002
NGR 33-015-139	3010
NGR 33-015-141	3011
NGR 33-015-160	3012
NGR 33-015-163	3013
NGR 33-015-165	3014
NGR 33-015-169	3015
NGR 33-015-180	3016
NGR 33-015-196	3017
NGR 33-016-131	2944
NGR 33-016-167	2945
NGR 33-016-196	2946
NGR 33-016-197	2947
NGR 33-016-201	2948
NGR 33-018-148	2978
NGR 33-018-152	2979
NGR 33-018-188	2980
NGR 33-019-002	3036
NGR 33-019-127	3037
NGR 33-022-157	3032
NGR 33-032-004	3034
NGR 33-209-002	2940
NGR 33-219-002	3030
NGR 34-001-041	3048
NGR 34-002-108	3061
NGR 34-002-188	3062
NGR 34-002-195	3063
NGR 35-001-012	3076
NGR 36-004-061	3136
NGR 36-004-064	3137
NGR 36-004-068	3138
NGR 36-004-075	3139
NGR 36-008-080	3121
NGR 36-008-161	3122
NGR 36-008-204	3123
NGR 36-008-205	3124
NGR 36-008-211	3125
NGR 36-009-017	3133
NGR 36-010-024	3153
NGR 36-010-031	3154
NGR 36-017-004	3077
NGR 36-027-050	3083
NGR 36-027-051	3084
NGR 36-027-053	3085
NGR 36-027-064	3086
NGR 36-027-068	3087
NGR 36-033-002	3102
NGR 36-033-003	3103
NGR 38-003-020	3189
NGR 38-003-034	3190
NGR 38-003-036	3191
NGR 39-007-011	3217
NGR 39-007-043	3218
NGR 39-007-056	3219
NGR 39-007-061	3220
NGR 39-007-064	3221
NGR 39-009-034	3242
NGR 39-009-077	3243
NGR 39-009-180	3244
NGR 39-009-218	3245
NGR 39-009-270	3246
NGR 39-009-275	3247
NGR 39-010-149	3266
NGR 39-011-113	3282
NGR 39-011-137	3283
NGR 39-011-161	3284
NGR 39-011-164	3285
NGR 39-087-003	3198
NGR 39-087-021	3199
NGR 39-087-047	3200
NGR 39-087-053	3201
NGR 40-002-088	3295
NGR 40-002-093	3296
NGR 40-002-116	3297
NGR 40-002-123	3298
NGR 43-001-134	3340
NGR 43-001-135	3341
NGR 43-003-015	3328
NGR 43-021-002	3317
NGR 44-001-081	3434
NGR 44-001-117	3435
NGR 44-001-152	3436
NGR 44-004-030	3531
NGR 44-004-120	3532
NGR 44-004-124	3533
NGR 44-004-133	3534
NGR 44-004-142	3535
NGR 44-004-150	3536
NGR 44-005-002	3465
NGR 44-005-091	3466
NGR 44-005-131	3467
NGR 44-005-133	3468
NGR 44-005-137	3469
NGR 44-006-137	3393
NGR 44-006-156	3394
NGR 44-012-152	3495
NGR 44-012-165	3496
NGR 44-012-194	3497
NGR 44-012-209	3498
NGR 44-012-219	3499
NGR 44-012-225	3500
NGR 44-012-240	3501
NGR 44-012-258	3502
NGR 44-012-260	3503
NGR 44-012-261	3504
NGR 44-012-269	3505
NGR 44-012-279	3506
NGR 44-012-282	3507
NGR 44-012-283	3508
NGR 44-015-003	3550
NGR 44-032-013	3372
NGR 44-081-001	3374
NGR 44-081-005	3375
NGR 44-087-002	3377
NGR 44-088-002	3546
NGR 44-094-003	3548
NGR 44-095-001	3373
NGR 45-001-011	3553
NGR 45-001-032	3554
NGR 45-001-040	3555
NGR 45-003-095	3567
NGR 45-003-108	3568
NGR 47-002-041	3687
NGR 47-003-043	3612
NGR 47-003-048	3613
NGR 47-003-052	3614
NGR 47-003-068	3615
NGR 47-003-078	3616
NGR 47-003-082	3617
NGR 47-004-090	3699
NGR 47-004-108	3700
NGR 47-004-114	3701
NGR 47-004-116	3702
NGR 47-004-126	3703
NGR 47-004-129	3704
NGR 47-0[illegible]-172	3669
NGR 47-005-176	3670
NGR 47-005-181	3671
NGR 47-005-186	3672
NGR 47-005-204	3673
NGR 47-005-208	3674
NGR 47-005-213	3675
NGR 47-005-219	3676
NGR 47-006-054	3585
NGR 47-014-006	3734
NGR 47-018-005	3688
NGR 47-020-006	3595
NGR 47-020-008	3596
NGR 48-002-003	3748
NGR 48-002-033	3749
NGR 48-002-107	3750
NGR 48-002-130	3751
NGR 48-002-141	3752
NGR 48-002-142	3753
NGR 48-002-149	3754
NGR 48-002-153	3755
NGR 48-002-154	3756
NGR 48-002-162	3757
NGR 49-001-056	3768
NGR 50-002-051	3792
NGR 50-002-162	3793
NGR 50-002-189	3794
NGR 50-002-191	3795
NGR 50-002-215	3796
NGR 50-002-223	3797
NGR 50-007-001	3806
NGR 50-009-001	3807
NGR 50-010-001	3769
NGR 51-001-035	3812
NGR 52-012-008	3820
NGR 52-026-039	3814

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NGR 52-028-004	3826
NGR 52-134-005	3817
NGT 01-002-080	1081
NGT 01-003-044	1030
NGT 01-003-045	1031
NGT 01-005-750	1037
NGT 01-008-021	1067
NGT 05-020-409	1415
NGT 05-020-412	1416
NGT 09-011-051	1884
NGT 09-011-058	1885
NGT 11-008-004	2003
NGT 11-013-001	2012
NGT 19-005-750	2252
NGT 21-002-254	2342
NGT 21-025-006	2295
NGT 21-027-012	2271
NGT 21-123-001	2277
NGT 24-005-078	2638
NGT 32-003-750	2811
NGT 32-004-750	2837
NGT 32-010-001	2794
NGT 34-012-750	3053
NGT 34-017-001	3044
NGT 36-008-007	3126
NGT 36-027-011	3088
NGT 37-003-760	3175
NGT 37-004-010	3171
NGT 39-009-141	3248
NGT 39-108-750	3225
NGT 43-014-750	3322
NGT 44-033-750	3379
NGT 44-073-750	3403
NGT 44-085-750	3543
NGT 47-003-028	3618
NGT 47-003-029	3619
NSG 801	2222
NSG 802	3172
NSG 803	2011
NSG 804	2795
NSG 805	1899
NSG 901	1900
NSG 902	2840
NSG 1003	2589
NSG 1005	1232
NSG 1008	3302
NSG 1010	3677
NSG 1011	3597
NSG 1014	3602
NSG 1015	3705
NSG 1016	2713
NSG 1018	2490
NSG 1020	3706
NSG 1021	1910
NSG 1022	3620
NSG 1024	3707
NSG 1025	3770
NSG 1026	1864
NSG 1028	3621
NSG 1031	2343
NSG 1032	3045
NSG 1033	3073
NSG 1039	3622
NSG 1040	3623
NSG 1046	2198
NSG 1047	1986
NSG 1048	2491
NSG 1050	2703
NSG 1052	2981
NSG 1055	3624
NSG 1056	1788
NSG 1058	3064
NSG 1059	2885
NSG 1060	3625
NSG 1063	2086
NSG 1064	3708
NSG 1070	2778
NSG 1071	3709
NSG 1074	3603
NSG 1075	2344
NSG 1076	3299
NSG 1077	3065
NSG 1078	2779
NSG 1079	3626
NSG 1080	2590
NSG 1081	3342
NSG 1082	1819
NSG 1083	2672
NSG 1084	2714
NSG 1085	3710
NSG 1086	3598
NSG 1087	3627
NSG 1089	3586
NSG 1095	3587
NSG 1096	2273
NSG 1098	3628
NSG 1099	3711
NSG 1100	3629
NSG 1101	3678
NSG 1102	2144
NSG 1109	3712
NSG 1110	1865
NSG 1112	2492
NSG 1114	3713
NSG 1115	2886
NSG 1116	3066
NSG 1117	3630
NSG 1119	3714
NSG 1120	2035
NSG 1121	3049
NSG 1122	2199
NSG 1124	3715
NSG 1125	3306
NSG 1127	3631
NSG 1128	3679
NSG 1129	2780
NSG 1130	1886
NSG 1131	3632
NSG 1133	3067
NSG 1135	3633
NSG 1136	3068
NSG 1138	2546
NSG 1139	2200
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NSG 1142	2201
NSG 1143	3634
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NSG 1149	1832
NSG 1150	2075
NSG 1151	3680
NSG 1152	3635
NSG 1153	3636
NSG 1155	1866
NSG 1156	2345
NSG 1157	2715
NSG 1159	1949
NSG 1161	1867
NSG 1163	3343
NSG 1164	2887
NSG 1165	2218
NSG 1166	2846
NSG 1167	3637
NSG 1169	2854
NSG 1170	1868
NSG 1171	3344
NSG 1174	3437
NSG 1176	2591
NSG 1177	3638
NSG 1178	3222
NSG 1179	3052
NSG 1180	3681
NSG 1181	1887
NSG 1182	3716
NSG 1183	3176
NSG 1184	3127
NSG 1185	3140
NSG 1186	3639
NSG 1188	2982
NSG 1189	2219
NSG 1190	2493
NSG 1192	2220
NSG 1193	2346
NSG 1194	3033
NSG 1195	3717
NSG 1196	3798
NSG 1197	3640
NSG 1198	2963
NSG 1199	3165
NSG 1201	1417
NSG 1202	3069
NSG 1203	3588

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NSG 1204	3589
NSG 1205	3070
NSG 1206	3401
NSG 1207	3641
NSG 1208	3141
NSG 1209	3601
NSG 1210	1418
NSG 1211	3038
NSG 1212	3128
NSG 1213	1790
NSG 1214	3718
NSG 1215	1748
NSG 1216	1869
NSG 1217	2494
NSG 1218	2267
NSG 1219	2495
NSG 1220	2235
NSG 1221	1717
NSG 1222	3300
NSG 1223	3682
NSG 1224	3345
NSG 1225	3642
NSG 1226	3643
NSG 1227	2202
NSG 1228	1870
NSG 1229	2592
NSG 1230	3719
NSG 1231	2673
NSG 1232	3354
NSG 1233	2087
NSG 1234	2781
NSG 1235	3355
NSG 1236	3644
NSG 1237	3645
NSG 1238	3720
NSG 1239	3721
NSG 1240	3207
NSG 1241	3646
NSG 1242	2674
NSG 1243	2593
NSG 1244	2964
NSG 1245	3647
NSG 1246	1871
NSG 1247	3648
NSG 1248	2965
NSG 1249	2675
NSG 1250	3722
NSG 1251	1872
NSG 1252	3649
NSG 1253	2782
NSG 1254	3723
NSG 1255	3724
NSG 1256	3683
NSG 1257	1987
NSG 1258	2142
NSG 1259	3650
NSG 1260	3651
NSG 1261	3346
NSG 1262	3725
NSG 1263	2926
NSG 1264	2088
NSG 1265	2285
NSG 1266	2036
NSG 1267	3050
NSG 1268	3509
NSG 1269	2203
NSG 1270	1578
NSG 1271	3652
NSG 1272	3569
NSG 1273	2231
NSG 1274	3684
NSG 1275	3726
NSG 1276	3727
NSG 1277	3470
NSG 1278	2132
NSG 1279	3653
NSG 1280	3250
NSG 1281	2204
NSG 1282	3654
NSG 1283	1945
NSG 1284	2676
NSG 1285	2683
NSG 1286	3728
NSG 1287	3071
NSG 1288	1988
NSG 1289	1873
NSG 1290	3471
NSG 1291	2949
NSG 1292	2496
NSG 1293	2133
NSG 1294	3600
NSG 1295	2533
NSG 1296	3055
NSG 1297	3307
NSG 1298	2950
NSG 1299	2497
NSG 1300	2966
NSG 1301	2205
NSG 1302	2206
NSG 1303	2951
NSG 1304	1833
NSG 1305	2855
NSG 1306	2594
NSG 1307	1989
NSG 1308	3251
NSG 1309	3655
NSG 1310	2207
NSG 1311	3656
NSG 1314	2793
NSG 1315	3657
NSG 1318	3658
NSG 1321	3659
NSG 2002	3799
NSG 2003	1493
NSG 2005	1268
NSG 2006	3402
NSG 2007	1419
NSG 2008	2609
NSG 2009	1749
NSG 2010	2498
NSG 2013	3107
NSG 2014	2639
NSG 2016	3729
NSG 2018	2595
NSG 2020	1420
NSG 2023	2687
NSG 2026	1494
NSG 2029	1901
NSG 2030	2720
NSG 2031	2406
NSG 2032	2499
NSG 2034	3164
NSG 2035	1421
NSG 2036	1697
NSG 2038	3730
NSG 2039	1671
NSG 2040	2162
NSG 2041	2253
NSG 2042	1150
NSG 2043	1495
NSG 2047	1325
NSG 2048	1815
NSG 2049	1422
NSG 2050	1423
NSG 2052	2838
NSG 2053	1091
NSG 2054	1990
NSG 2055	1791
NSG 2056	2596
NSG 2057	2072
NSG 2058	1068
NSG 2061	3134
NSG 2062	2783
NSG 2063	1672
NSG 2065	3510
NSG 2066	1326
NSG 2067	2236
NSG 2071	1424
NSG 2072	1425
NSG 2074	3104
NSG 2075	1698
NSG 2076	2500
NSG 2077	3477
NSG 2078	2927
NSG 2080	2991
NSG 2084	1496
NSG 2085	1426
NSG 2086	1699
NSG 2088	2842
NSG 2090	1327
NSG 2091	2163
NSG 2092	1427
NSG 2093	1328
NSG 2094	1579

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NSG 2095	2501
NSG 2098	2298
NSG 2099	2089
NSG 2100	1428
NSG 2101	3511
NSG 2102	1429
NSG 2103	1902
NSG 2104	3800
NSG 2105	1329
NSG 2106	1700
NSG 2108	2784
NSG 2109	2347
NSG 2110	1497
NSG 2111	1330
NSG 2112	1151
NSG 2113	2597
NSG 2114	2785
NSG 2115	1580
NSG 2116	3286
NSG 2117	3287
NSG 2118	2502
NSG 2119	2090
NSG 2120	1928
NSG 2121	1430
NSG 2122	3252
NSG 2123	3438
NSG 2125	1498
NSG 2126	1792
NSG 2127	1499
NSG 2128	1793
NSG 2129	2503
NSG 2130	1331
NSG 2131	3758
NSG 2132	1431
NSG 2133	1500
NSG 2134	2221
NSG 2135	2134
NSG 2137	3443
NSG 2138	1274
NSG 2139	2264
NSG 2140	2730
NSG 2141	1432
NSG 2142	2504
NSG 2143	1953
NSG 2144	2407
NSG 2145	2208
NSG 2147	2967
NSG 2148	2792
NSG 2149	2047
NSG 2150	2164
NSG 2151	1501
NSG 2152	2165
NSG 2153	1701
NSG 2154	1233
NSG 2155	1820
NSG 2156	2532
NSG 2158	2135
NSG 2159	1270
NSG 2160	1502
NSG 2161	1433
NSG 2162	3129
NSG 2163	1255
NSG 2164	1673
NSG 3001	2348
NSG 3002	3288
NSG 3003	1082
NSG 3004	2654
NSG 3005	3130
NSG 3007	2983
NSG 3008	2091
NSG 3009	3089
NSG 3010	3289
NSG 3011	1750
NSG 3012	3253
NSG 3013	2232
NSG 3014	2610
NSG 3015	1991
NSG 3016	3254
NSG 3017	2505
NSG 3018	1929
NSG 3019	2928
NSG 3022	3142
NSG 3023	3202
NSG 3024	3143
NSG 3025	1718
NSG 3026	3106
NSG 3027	3090
NSG 3028	1503
NSG 3029	2136
NSG 3030	2034
NSG 3031	3255
NSG 3032	3256
NSG 3033	2166
NSG 3034	1634
NSG 3035	2611
NSG 3036	1992
NSG 3037	2145
NSG 3038	1751
NSG 3039	2048
NSG 3040	3091
NSG 3041	2640
NSG 3042	2049
NSG 3043	2092
NSG 3044	2506
NSG 3045	3144
NSG 3046	2507
NSG 3047	1635
NSG 3048	2146
NSG 3049	2265
NSG 3050	2888
NSG 3051	3018
NSG 3052	1993
NSG 3053	3092
NSG 3054	3179
NSG 3055	1636
NSG 3056	2093
NSG 3057	2984
NSG 3058	3093
NSG 3059	2952
NSG 3060	1752
NSG 3061	2508
NSG 3062	3094
NSG 3063	3155
NSG 3064	2509
NSG 3065	1266
NSG 3066	3145
NSG 3067	3162
NSG 3068	3556
NSG 3069	2812
NSG 3070	2147
NSG 3071	2137
NSG 3072	2987
NSG 3073	3731
NSG 3074	3095
NSG 3075	1096
NSG 3076	2510
NSG 3077	3096
NSG 3078	3097
NSG 3079	2511
NSG 3080	2929
NSG 3081	2612
NSG 3082	1581
NSG 3084	3156
NSG 3085	3098
NSG 3086	1753
NSG 3087	2209
NSG 3088	2512
NSG 3089	3512
NSG 3090	3208
NSG 3091	3146
NSG 3092	2813
NSG 3093	2513
NSG 3094	2641
NSG 3095	2992
NSG 3096	1950
NSG 3097	3257
NSG 3098	2094
NSG 3099	3157
NSG 3100	2861
NSG 3101	2548
NSG 3102	2514
NSG 3103	1637
NSG 3105	2138
NSG 3106	1994
NSG 3108	2968
NSG 3109	1032
NSG 3111	2677
NSG 3113	2704
NSG 3115	3099
NSG 40[illegible]	1582
NSG 4002	1434
NSG 4003	2139
NSG 4004	2210
NSG 4005	3223

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NSG 4006	2211
NSG 4007	2212
NSG 4008	2213
NSG 4009	2214
NSG 4010	3224
NSG 5001	1152
NSG 5002	3347
NSG 5003	1853
NSG 5004	1813
NSG 5005	3513
NSG 5006	3158
NSG 5008	3226
NSG 5009	2272
NSG 5010	2140
NSG 5011	1754
NSG 5012	1995
NSG 5013	2856
NSG 5014	2734
NSG 5015	3019
NSG 5016	1888
NSG 5017	2349
NSG 5018	2988
NSG 5019	1854
NSG 5020	3051
NSG 5021	1889
NSG 5022	1153
NSG 5023	1154
NSG 5024	1435
NSG 5025	2148
NSG 5027	2030
NSG 5029	2286
NSG 5031	3514
NSG 5032	2953
NSG 5033	2954
NSG 5034	2955
NSG 5035	2350
NSG 5036	3301
NSG 5037	2930
NSG 5038	1905
NSG 5039	3759
NSG 5040	3348
NSG 5041	2969
NSG 5042	2351
NSG 5043	1155
NSG 5044	2598
NSG 5045	2956
NSG 5046	1156
NSG 5047	2352
NSG 5048	2353
NSG 5049	2095
NSG 5050	1436
NSG 5051	2275
NSG 5052	2276
NSG 5053	3660
NSG 5054	3039
NSG 5055	2376
NSG 5056	1583
NSG 5057	1504
NSG 5058	1234
NSG 5059	2354
NSG 5060	2931
NSG 5061	1930
NSG 5062	2355
NSG 5063	2786
NSG 5064	3267
NSG 5065	2287
NSG 5066	1841
NSG 5067	2288
NSG 5068	2073
NSG 5069	1814
NSG 5070	1584
NSG 5071	1890
NSG 5072	2889
NSG 5073	1755
NSG 5074	2296
NSG 5075	1821
NSG 5076	2515
NSG 5077	3031
NSG 5078	2289
NSG 5079	2890
NSG 5080	2891
NSG 5081	1891
NSG 5082	1996
NSG 5083	2356
NSG 5084	2357
NSG 5085	3537
NSG 5086	2215
NSG 5087	3538
NSG 5088	2642
NSG 5089	1638
NSG 5090	2290
NSG 5092	1528
NSG 5093	1505
NSG 5094	2358
NSG 5095	2516
NSG 5096	2031
NSG 5097	2599
NSG 5098	1794
NSG 5099	2408
NSG 5100	3801
NSG 5101	2185
NSG 5102	3020
NSG 5103	1795
NSG 5104	1892
NSG 5105	1756
NSG 5106	1659
NSG 5107	1842
NSG 5108	1719
NSG 5110	1915
NSG 5111	1843
NSG 5112	2359
NSG 5113	2517
NSG 5115	3515
NSG 5116	1931
NSG 5117	2600
NSG 5118	2892
NSG 5119	2291
NSG 5120	3056
NSG 5121	2360
NSG 6001	2361
NSG 6002	3661
NSG 6003	1846
NSG 6004	3258
NSG 6005	2643
NSG 6006	2370
NSG 6007	3209
NSG 6008	3472
NSG 6009	2644
NSG 6010	2362
NSG 6011	3290
NSG 7001	1639
NSG 7002	1585
NSG 7003	3021
NSG 7004	2601
NSG 7005	2645
NSG 7010	2518
NSG 7011	1157
NSG 7014	1158
NSG 7015	3395
NSG 7016	2716
NSG 7017	2363
NSG 7018	2409
NSG 7019	1097
NSG 7020	1159
NSG 7021	3579
NSG 7022	3078
NSG 7023	1235
NSG 7024	1160
NSG 7025	3396
NSG 7026	1275
NSG 7027	1640
NSG 7028	2858
NSG 7029	1437
NSG 7031	3268
NSG 7032	3397
NSG 7033	3802
NSG 7034	3539
NSG 7035	3100
NSG 7036	3022
NSG 7037	3439
NSG 7038	3576
NSG 7039	2037
NSG 7040	1098
NSG 7041	3159
NSG 7043	3398
NSG 7044	2096
NSG 7045	1161
NSG 7046	2364
NSG 7047	2747
NSG 7048	2519
NSG 7049	3349
NSG 7050	3803
NSG 7051	1092
NSG 7052	1586

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.	GRANT/ CONTRACT NUMBER	ACC NO.	GRANT/ CONTRACT NUMBER	ACC NO.
NSG 7053	2787	NSG 7127	1506	NSG 7196	2365
NSG 7055	2292	NSG 7128	1796	NSG 7198	3473
NSG 7063	2377	NSG 7129	1240	NSG 7200	2896
NSG 7065	2985	NSG 7130	1797	NSG 7201	1169
NSG 7066	2839	NSG 7131	2790	NSG 7202	1246
NSG 7067	1997	NSG 7133	3804	NSG 7203	3292
NSG 7069	1998	NSG 7135	2934	NSG 7205	1509
NSG 7070	1162	NSG 7136	1241	NSG 7206	3577
NSG 7071	3003	NSG 7137	2602	NSG 7207	3813
NSG 7072	3821	NSG 7138	3160	NSG 7208	1530
NSG 7073	3590	NSG 7139	1507	NSG 7209	2604
NSG 7075	2893	NSG 7140	1242	NSG 7210	3578
NSG 7076	3312	NSG 7141	1702	NSG 7212	2074
NSG 7077	2520	NSG 7142	1166	NSG 7214	3765
NSG 7078	3259	NSG 7143	1932	NSG 7215	3805
NSG 7079	3815	NSG 7144	2857	NSG 7216	1184
NSG 7080	2788	NSG 7145	1874	NSG 7217	1099
NSG 7081	2521	NSG 7146	1167	NSG 7219	3816
NSG 7083	3822	NSG 7147	3291	NSG 7220	1510
NSG 7084	1236	NSG 7150	3023	NSG 7221	2647
NSG 7085	3760	NSG 7151	1653	NSG 7222	2994
NSG 7087	2717	NSG 7152	1508	NSG 7224	1800
NSG 7088	2789	NSG 7154	2542	NSG 7225	3024
NSG 7089	3766	NSG 7155	1243	NSG 7226	3571
NSG 7090	3570	NSG 7156	2935	NSG 7227	2526
NSG 7091	2522	NSG 7157	3399	NSG 7229	1265
NSG 7092	1438	NSG 7158	1588	NSG 7230	2995
NSG 7093	2993	NSG 7159	3516	NSG 7231	1801
NSG 7094	1237	NSG 7160	1244	NSG 7232	3518
NSG 7095	2410	NSG 7161	1644	NSG 7234	1286
NSG 7096	3313	NSG 7162	3517	NSG 7235	2936
NSG 7097	2735	NSG 7163	3827	NSG 7236	1933
NSG 7098	2378	NSG 7164	1589	NSG 7237	2648
NSG 7099	1439	NSG 7165	1798	NSG 7238	1170
NSG 7100	1641	NSG 7166	1799	NSG 7239	1591
NSG 7101	1163	NSG 7167	2141	NSG 7242	1951
NSG 7102	1642	NSG 7168	1168	NSG 7243	2937
NSG 7104	2932	NSG 7169	2958	NSG 7244	1185
NSG 7105	2894	NSG 7170	2862	NSG 7245	1946
NSG 7106	1179	NSG 7172	3819	NSG 7246	1171
NSG 7107	3540	NSG 7173	3761	NSG 7248	2897
NSG 7108	2646	NSG 7174	3762	NSG 7249	1172
NSG 7110	1440	NSG 7175	2411	NSG 7250	3519
NSG 7111	3732	NSG 7176	2412	NSG 8001	1004
NSG 7112	1238	NSG 7178	3185	NSG 8002	2010
NSG 7113	1587	NSG 7179	2032	NSG 8003	1038
NSG 7114	1164	NSG 7180	1590	NSG 8004	3303
NSG 7115	2523	NSG 7182	1100	NSG 8005	2651
NSG 7116	2957	NSG 7184	2986	NSG 8007	3318
NSG 7117	1441	NSG 7186	2525	NSG 8008	2223
NSG 7118	2524	NSG 7187	2603	NSG 8009	2678
NSG 7119	3269	NSG 7189	3440	NSG 8011	1005
NSG 7120	3260	NSG 7190	2372	NSG 8012	3323
NSG 7121	1643	NSG 7191	2413	NSG 8013	1006
NSG 7122	1660	NSG 7192	3824	NSG 8014	2004
NSG 7123	1165	NSG 7193	3261	NSG 8015	2655
NSG 7125	1239	NSG 7194	2895	NSG 8016	2254
NSG 7126	2933	NSG 7195	1245	NSG 8017	1033

NASA'S UNIVERSITY PROGRAM
APPENDIX A CROSS INDEX BY GRANT/CONTRACT NUMBER

GRANT/ CONTRACT NUMBER	ACC NO.
NSG 8018	2237
NSG 8019	1952
NSG 8020	2005
NSG 8021	3308
NSG 8022	1007
NSG 8023	2656
NSG 8025	2255
NSG 8026	2657
NSG 8027	2008
NSG 8028	2256
NSG 8029	2257
NSG 8030	2006
NSG 8031	1934
NSG 8032	3324
NSG 8033	1008
NSG 8034	2241
NSG 8035	3319
NSG 8036	2652
NSG 8037	1309
NSG 8038	1039
NSG 8039	2007
NSG 8040	2996
NSG 8041	1010
NSG 9005	3196
NSG 9006	3380
NSG 9010	1893
NSG 9011	3270
NSG 9013	3025
NSG 9016	2658
NSG 9019	1247
NSG 9020	1661
NSG 9021	3520
NSG 9022	2970
NSG 9024	3572
NSG 9025	2898
NSG 9026	3547
NSG 9028	2997
NSG 9030	2258
NSG 9031	2605
NSG 9032	3763
NSG 9033	3378
NSG 9034	1663
NSG 9035	2718
NSG 9036	1802
NSG 9037	1757
NSG 9038	3376
NSG 9039	3400
NSG 9040	1999
NSG 9042	3474
NSG 9043	3476
NSG 9044	3026
NSR 09-010-027	1875
NSR 12-001-019	2033
NSR 24-005-245	2649
NSR 31-001-901	2791
NSR 44-004-041	3541
NSR 44-004-089	3542
S-27376B	3101
S-54214A	2606
S-55672A	1947
W-13995	2527
W-14061	1822
W-14108	1645
W-14133	2097
W-14168	3161

NASA'S UNIVERSITY PROGRAM
APPENDIX B
CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

The Fields used here are specified by Amendment J, "Standard Classification of Fields of Science and Engineering," to Office of Management and Budget (OMB) Circular A-46, "Standards for Statistical Surveys." Field codes are interpreted as follows:

PHYSICAL SCIENCES

11 ASTRONOMY
12 CHEMISTRY
13 PHYSICS
19 PHYSICAL SCIENCES, NEC*

MATHEMATICS

21 ANY DISCIPLINE(S)

ENVIRONMENTAL SCIENCES
(Terrestrial and extraterrestrial)

31 ATMOSPHERIC SCIENCES
32 GEOLOGICAL SCIENCES
33 OCEANOGRAPHY
39 ENVIRONMENTAL SCIENCES, NEC*

ENGINEERING

41 AERONAUTICAL
42 ASTRONAUTICAL
43 CHEMICAL
44 CIVIL
45 ELECTRICAL
46 MECHANICAL
47 METALLURGY AND MATERIALS
49 ENGINEERING, NEC*

LIFE SCIENCES

51 BIOLOGY
52 CLINICAL MEDICAL
53 OTHER MEDICAL
59 LIFE SCIENCES, NEC*

PSYCHOLOGICAL

61 BIOLOGICAL
62 SOCIAL ASPECTS
69 PSYCHOLOGICAL, NEC*

SOCIAL SCIENCES

71 ANTHROPOLOGY
72 ECONOMICS
73 HISTORY
74 LINGUISTICS
75 POLITICAL SCIENCE
76 SOCIOLOGY
79 SOCIAL SCIENCE, NEC*

*OTHER SCIENCES***

99 ALL DISCIPLINE(S)

*Not Elsewhere Classified (For interdisciplinary projects and others not listed by discipline name)
**For interdisciplinary projects which cannot be classified within any of the preceding main fields

Abbreviations used in the "Technical Officer Locations" column are discussed in the prefatory pages.

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	ALABAMA A&M UNIV	Parnell, T. A.	MSFC	George, M. C.	NSG 8001	1004
11	BELOIT COLLEGE	Sobieski, S.	GSFC	Schroeder, D. J.	NGR 50-010-001	3769
11	BOSTON UNIVERSITY	Kupperian, J. E.	GSFC	Adelman, S. J.	NSG 5055	2376
11	BOWIE STATE COLLEGE	Boldt, E. A.	GSFC	Tornabene, H. S.	NGR 21-027-001	2268
11	BOWLING GRN STATE U	Roman, N. G.	HQ-SA	Ptak, R. L.	NSG 7022	3078
11	BRANDEIS UNIVERSITY	Timothy, A. F.	HQ-ST	Stein, R. F.	NSG 7098	2378
11	BRIGHAM YOUNG UNIV	Brunk, W. E.	HQ-SL	Jones, D. E.	NGR 45-001-032	3554
11	CALIF INST OF TECH	Hall, C. F.	ARC	Munch, G.	NAS 2-6556	1188
11	CALIF INST OF TECH	Cameron, R. M.	ARC	Werner, M. W.	NGR 05-002-281	1221
11	CALIF INST OF TECH	Hymowitz, E. W.	GSFC	Neugebauer, G.	NAS 5-22555	1192
11	CALIF INST OF TECH	Neupert, W. M.	GSFC	Zirin, H.	NAS 5-22939	1193
11	CALIF INST OF TECH	Sobieski, S.	GSFC	Neugebauer, G.	NAS 5-23287	1195
11	CALIF INST OF TECH	Wrublik, D. P.	GSFC	Garmire, G. P.	NAS 5-23315	1196
11	CALIF INST OF TECH	Weinreb, M. B.	GSFC	Garmire, G. P.	NAS 5-23615	1197
11	CALIF INST OF TECH	Sobieski, S.	GSFC	Oke, J. B.	NGR 05-002-311	1228
11	CALIF INST OF TECH	Krome, H. O.	MSFC	Stone, E. C.	NAS 8-27978	1198
11	CALIF INST OF TECH	Rosendahl, J. D.	HQ-SA	Oke, J. B.	NGL 05-002-134	1205
11	CALIF INST OF TECH	Boggess, N. W.	HQ-SA	Neugebauer, G.	NGL 05-002-2[illegible]7	1211
11	CALIF INST OF TECH	Sofia, S.	HQ-SA	Vogt, R. E.	NGR 05-002-160	1218
11	CALIF INST OF TECH	Boggess, N. W.	HQ-SA	Thorne, D.	NGR 05-002-256	1220
11	CALIF INST OF TECH	Opp, A. G.	HQ-SA	Garmire, G. P.	NGR 05-002-284	1222
11	CALIF INST OF TECH	Boggess, N. W.	HQ-SA	Neugebauer, G.	NSG 7140	1242
11	CALIF INST OF TECH	Roman, N. G.	HQ-SA	Christysackmann, I. J.	NSG 7195	1245
11	CALIF INST OF TECH	Brunk, W. E.	HQ-SL	Muhleman, D. O.	NGL 05-002-003	1200
11	CALIF INST OF TECH	Brunk, W. E.	HQ-SL	Neugebauer, G.	NGL 05-002-007	1201
11	CALIF INST OF TECH	Brunk, W. E.	HQ-SL	Munch, G.	NGL 05-002-140	1207
11	CALIF INST OF TECH	Brunk, W. E.	HQ-SL	Muhleman, D. O.	NGR 05-002-114	1214
11	CALIF INST OF TECH	Brunk, W. E.	HQ-SL	Westphal, J. A.	NGR 05-002-185	1219
11	CALIF INST OF TECH	Brunk, W. E.	HQ-SL	Leighton, R. B.	NSG 7136	1241
11	CALIF INST OF TECH	Timothy, A. F.	HQ-ST	Henry, D. G.	NGL 05-002-034	1202

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	CALIF INST OF TECH	Timothy, A. F.	HQ-ST	Zirin, H.	NGR 05-002-142	1217
11	CALIF INST OF TECH	Timothy, A. F.	HQ-ST	Zirin, H.	NGR 05-002-294	1223
11	CALIF INST OF TECH	Schmerling, E. R.	HQ-ST	Garmire, G. P.	NGR 05-002-296	1224
11	CAL STATE U-CHICO	Zill, L. P.	ARC	Zeilenga, J. H.	NCA 2-110601	1253
11	CAL STATE U-L ANGLES	Zill, L. P.	ARC	Goldwhite, H.	NCA 2-385502	1264
11	CITY COLLEGE OF N Y	Stothers, R. B.	GSFC	Erlbach, E.	NGL 33-013-040	2852
11	COLUMBIA UNIVERSITY	Donley, J. L.	GSFC	Novick, R.	NAS 5-22341	2865
11	COLUMBIA UNIVERSITY	White, A. F., Jr.	GSFC	Novick, R.	NAS 5-22890	2867
11	COLUMBIA UNIVERSITY	Weinreb, M. B.	GSFC	Novick, R.	NAS 5-23623	2869
11	COLUMBIA UNIVERSITY	Bissell, E. E., Jr.	GSFC	Novick, R.	NGR 33-008-102	2875
11	COLUMBIA UNIVERSITY	Thaddeus, P.	GSFC	Hartmann, S. R.	NGR 33-008-191	2881
11	COLUMBIA UNIVERSITY	Kupperian, J. E.	GSFC	Wolff, R. S.	NSG 5079	2890
11	COLUMBIA UNIVERSITY	Kupperian, J. E.	GSFC	Wolff, R. S.	NSG 5118	2892
11	COLUMBIA UNIVERSITY	Manning, H. S.	MSFC	Novick, R.	NAS 8-30753	2872
11	COLUMBIA UNIVERSITY	Roman, N. G.	HQ-SA	Weisskopf, M. C.	NGR 33-008-194	2882
11	COLUMBIA UNIVERSITY	Boggess, N. W.	HQ-SA	Austin, P. M.	NSG 7105	2894
11	COLUMBIA UNIVERSITY	Sofia, S.	HQ-SA	Weisskopf, M. C.	NSG 7248	2897
11	COLUMBIA UNIVERSITY	Taylor, W. L.	HQ-ST	Wolff, R. S.	NGR 33-008-183	2879
11	COLUMBIA UNIVERSITY	Timothy, A. F.	HQ-ST	Wolff, R. S.	NGR 33-008-189	2880
11	COLUMBIA UNIVERSITY	Timothy, A. F.	HQ-ST	Novick, R.	NGR 33-008-200	2884
11	COLUMBIA UNIVERSITY	Timothy, A. F.	HQ-ST	Novick, R.	NSG 7075	2893
11	CONCORDIA COL-MOORHD	Berg, O. E.	GSFC	Bailey, C. F.	NAS 5-23557	2613
11	CORNELL UNIVERSITY	Ericksen, E. F.	ARC	Houck, J. R.	NAS 2-8706	2901
11	CORNELL UNIVERSITY	Cameron, R. M.	ARC	Houck, J. R.	NGR 33-010-081	2912
11	CORNELL UNIVERSITY	Cameron, R. M.	ARC	Harwit, M. O.	NGR 33-010-146	2917
11	CORNELL UNIVERSITY	Cameron, R. M.	ARC	Houck, J. R.	NGR 33-010-182	2921
11	CORNELL UNIVERSITY	Hymowitz, E. W.	GSFC	Houck, J. R.	NAS 5-22586	2903
11	CORNELL UNIVERSITY	Trombka, J. I.	GSFC	Greisen, K. I.	NSG 5037	2930
11	CORNELL UNIVERSITY	Opp, A. G.	HQ-SA	Greisen, K. I.	NGR 33-010-145	2916
11	CORNELL UNIVERSITY	Boggess, N. W.	HQ-SA	Harwit, M. O.	NGR 33-010-172	2919
11	CORNELL UNIVERSITY	Brunk, W. E.	HQ-SL	Harwit, M. O.	NGR 33-010-210	2924
11	CORNELL UNIVERSITY	Brunk, W. E.	HQ-SL	Veverka, J.	NSG 7126	2933
11	DARTMOUTH COLLEGE	Schmerling, E. R.	HQ-ST	Sonnerup, B.	NSG 7097	2735
11	DUKE UNIVERSITY	Trombka, J. I.	GSFC	O'Foghludha, F. R.	NGR 34-001-041	3048
11	FEDERAL CITY COLLEGE	Webster, W. H., Jr.	GSFC	Nottingham, W. C.	NGR 09-050-003	1848
11	FEDERAL CITY COLLEGE	Pohly, J. G.	HQ-P	McDowell, H.	NGR 09-050-010	1849
11	FLORIDA STATE UNIV	Brunk, W. E.	HQ-SL	Hunt, R. H.	NGR 10-004-056	1909
11	FLORIDA TECH UNIV	Hobbs, R. W.	GSFC	Katzin, J. C.	NSG 5110	1915
11	HARVARD UNIVERSITY	Hall, C. F.	ARC	Goody, R. M.	NAS 2-9127	2380
11	HARVARD UNIVERSITY	Underhill, A. B.	GSFC	Dupree, A. K.	NAS 5-20764	2382
11	HARVARD UNIVERSITY	Donley, J. L.	GSFC	Reeves, E. M.	NAS 5-22343	2383
11	HARVARD UNIVERSITY	White, A. F., Jr.	GSFC	Withbroe, G. L.	NAS 5-22374	2384
11	HARVARD UNIVERSITY	Underhill, A. B.	GSFC	Dupree, A. K.	NAS 5-23371	2386
11	HARVARD UNIVERSITY	Kupperian, J. E.	GSFC	Noyes, R. W.	NGR 22-007-285	2405
11	HARVARD UNIVERSITY	Kupperian, J. E.	GSFC	Dupree, A. K.	NSG 5099	2408
11	HARVARD UNIVERSITY	Unavailable	MSFC	Goldberg, L.	NAS 5-3949	2381
11	HARVARD UNIVERSITY	Carter, C. H.	HQ-P	Field, G. B.	NSG 7176	2412
11	HARVARD UNIVERSITY	Boggess, N. W.	HQ-SA	Fazio, G. G.	NGR 22-007-270	2402
11	HARVARD UNIVERSITY	Sofia, S.	HQ-SA	Cameron, A. G.	NGR 22-007-272	2403
11	HARVARD UNIVERSITY	Timothy, A. F.	HQ-ST	Parkinson, W. H.	NGR 22-007-202	2396
11	HARVARD UNIVERSITY	Timothy, A. F.	HQ-ST	Maxwell, A.	NGR 22-007-257	2399
11	HARVARD UNIVERSITY	Timothy, A. F.	HQ-ST	Noyes, R. W.	NSG 7018	2409
11	HOUSTON BAPTIST UNIV	Kondo, Y.	JSC	Modisette, J. L.	NGR 44-081-001	3374
11	HOUSTON BAPTIST UNIV	Kondo, Y.	JSC	Modisette, J. L.	NGR 44-081-005	3375
11	HOUSTON BAPTIST UNIV	Potter, A. E.	JSC	Morgan, T. H.	NSG 9038	3376
11	HOWARD UNIVERSITY	Maran, S. P.	GSFC	Kumar, C. K.	NSG 5021	1889
11	INDIANA U-BLOOMINGTN	Hobbs, R. W.	GSFC	Falk, J.	NAS 5-22987	2101
11	INDIANA U-BLOOMINGTN	Rosendhal, J. D.	HQ-SA	Johnson, H. R.	NGL 15-003-002	2107

APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	IOWA STATE UNIV	Zill, L. P.	ARC	Grossman, A. S.	NCA 2-340602	2158
11	JERSEY CITY ST COL	Zill, L. P.	ARC	Bailey, W. L.	NCA 2-350501	2748
11	JERSEY CITY ST COL	Ericson, E. F.	ARC	Bailey, W. L.	NCA 2-350601	2749
11	JOHNS HOPKINS UNIV	Boggess, A.	GSFC	Fastie, W. G.	NAS 5-23316	2279
11	JOHNS HOPKINS UNIV	Bissell, E. E., Jr.	GSFC	Fastie, W. G.	NGR 21-001-001	2282
11	JOHNS HOPKINS UNIV	Sobieski, S.	GSFC	Fastie, W. G.	NGR 21-001-115	2284
11	JOHNS HOPKINS UNIV	Kupperian, J. E.	GSFC	Henry, R. C.	NSG 5029	2286
11	JOHNS HOPKINS UNIV	Maran, S. P.	GSFC	Feldman, P. D.	NSG 5065	2287
11	JOHNS HOPKINS UNIV	Kupperian, J. E.	GSFC	Moos, H. W.	NSG 5067	2288
11	JOHNS HOPKINS UNIV	Kupperian, J. E.	GSFC	Henry, R. C.	NSG 5078	2289
11	JOHNS HOPKINS UNIV	Kupperian, J. E.	GSFC	Henry, R. C.	NSG 5119	2291
11	LEHIGH UNIVERSITY	Kondo, Y.	JSC	McCluskey, G. E., Jr.	NGR 39-007-061	3220
11	LA STATE U-BAT ROUGE	Opp, A. G.	HQ-SA	Huggett, R. W.	NGR 19-001-012	2248
11	LA STATE U-SHREVEPT	Giuli, R. T.	JSC	Moss, T. A.	NAS 9-9317	2249
11	MASS INST OF TECH	Hall, C. F.	ARC	Pettengill, G. H.	NAS 2-8977	2419
11	MASS INST OF TECH	Hall, C. F.	ARC	Shapiro, I. I.	NAS 2-9132	2420
11	MASS INST OF TECH	Raymos, R.	ARC	Counselman, C. C., III	NAS 2-9151	2421
11	MASS INST OF TECH	Cameron, R. M.	ARC	McCord, T. B.	NGR 22-009-718	2472
11	MASS INST OF TECH	Piterski, N. J.	GSFC	Clark, G. W.	NAS 5-11450	2425
11	MASS INST OF TECH	Weinreb, M. B.	GSFC	Bradt, H. V.	NAS 5-23624	2430
11	MASS INST OF TECH	Bissell, E. E., Jr.	GSFC	Bradt, H. V.	NGR 22-009-730	2475
11	MASS INST OF TECH	Sobieski, S.	GSFC	McCord, T. B.	NGR 22-009-778	2480
11	MASS INST OF TECH	Hansen, J. E.	GSFC	Rivas, E. K.	NSG 5076	2515
11	MASS INST OF TECH	Bodie, W. G.	MSFC	Bradt, H. V.	NAS 8-27972	2431
11	MASS INST OF TECH	Jordan, W. E.	MSFC	Lewin, W. H.	NAS 8-27975	2432
11	MASS INST OF TECH	Manning, H. S.	MSFC	Clark, G. W.	NAS 8-30752	2436
11	MASS INST OF TECH	Boggess, N. W.	HQ-SA	Weiss, R.	NGR 22-009-526	2464
11	MASS INST OF TECH	Roman, N. G.	HQ-SA	Weiss, R.	NSG 7091	2522
11	MASS INST OF TECH	Boggess, N. W.	HQ-SA	Kleinmann, S. G.	NSG 7186	2525
11	MASS INST OF TECH	Brunk, W. E.	HQ-SL	McCord, T. B.	NGR 22-009-473	2463
11	MASS INST OF TECH	Fellows, R. F.	HQ-SL	McCord, T. B.	NGR 22-009-583	2467
11	MASS INST OF TECH	Brunk, W. E.	HQ-SL	Pettengill, G. H.	NGR 22-009-672	2470
11	MONTANA STATE UNIV	Wood, D. B.	HQ-SA	Nordtvedt, K., Jr.	NGR 27-001-040	2719
11	MORGAN STATE UNIV	Baker, G. R.	GSFC	Hammond, E. C., Jr.	NSG 5074	2296
11	NEW MEX INST MINING	Maran, S. P.	GSFC	Hume, W.	NCA 5-4[illegible]	2797
11	NEW MEX INST MINING	Maran, S. P.	GSFC	Hume, W.	NCA 5-58	2799
11	NEW MEX INST MINING	Maran, S. P.	GSFC	Hume, W.	NCA 5-59	2800
11	NEW MEX ST U-LAS CR	Harvey, G. A.	LARC	Beebe, R. F.	NAS 1-13586	2801
11	NEW MEX ST U-LAS CR	Roman, N. G.	HQ-SA	Liefeld, R. J.	NGL 32-003-069	2810
11	NEW MEX ST U-LAS CR	Brunk, W. E.	HQ-SL	Beebe, R. F.	NGL 32-003-001	2809
11	NEW YORK UNIVERSITY	Hall, C. F.	ARC	Weinberg, J. L.	NAS 2-7963	2941
11	NEW YORK UNIVERSITY	Lazarus, A. J.	HQ-SA	Korff, S. A.	NSG 7116	2957
11	NORTHWESTERN UNIV	Henize, K. G.	JSC	Telford, J. W.	NAS 9-12280	2038
11	NORTHWESTERN UNIV	Rosendhal, J. D.	HQ-SA	Huang, S. S.	NGL 14-007-041	2040
11	NORTHWESTERN UNIV	Roman, N. G.	HQ-SA	Bahng, J. D.	NGR 14-007-122	2044
11	PRINCETON UNIVERSITY	Kupperian, J. E.	GSFC	Spitzer, L., Jr.	NAS 5-1810	2753
11	PRINCETON UNIVERSITY	Sobieski, S.	GSFC	Lowrance, J. L.	NAS 5-20833	2754
11	PRINCETON UNIVERSITY	Sobieski, S.	GSFC	Morton, D. C.	NAS 5-22989	2757
11	PRINCETON UNIVERSITY	Sobieski, S.	GSFC	Danielson, R. E.	NAS 5-23284	2758
11	PRINCETON UNIVERSITY	Tycz, M.	GSFC	Lowrance, J. L.	NAS 5-23386	2759
11	PRINCETON UNIVERSITY	Tycz, M.	GSFC	Lowrance, J. L.	NAS 5-23387	2760
11	PRINCETON UNIVERSITY	Kupperian, J. E.	GSFC	Spitzer, L., Jr.	NAS 5-23576	2761
11	PRINCETON UNIVERSITY	Sobieski, S.	GSFC	Morton, D. C.	NGR 31-001-306	2774
11	PRINCETON UNIVERSITY	Harris, J. W.	JSC	Hollister, L. S.	NGL 31-001-283	2766
11	PRINCETON UNIVERSITY	Roman, N. G.	HQ-SA	Spitzer, L., Jr.	NGL 31-001-007	2763
11	PRINCETON UNIVERSITY	Roman, N. G.	HQ-SA	Millich, F.	NGR 31-001-001	2767
11	PRINCETON UNIVERSITY	Roman, N. G.	HQ-SA	Lowrance, J. L.	NSR 31-001-901	2791
11	PRINCETON UNIVERSITY	Brunk, W. E.	HQ-SL	Smith, W. H.	NGR 31-001-242	2771

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	PRINCETON UNIVERSITY	Brunk, W. E.	HQ-SL	Danielson, R. E.	NSG 7053	2787
11	PRINCETON UNIVERSITY	Timothy, A. F.	HQ-ST	Schwartzchild, M.	NSG 7088	2789
11	PURDUE UNIVERSITY	Rosendhal, J. D.	HQ-SA	Moffett, T. J.	NSG 7167	2141
11	RICE UNIVERSITY	Ballance, C. W., Jr.	WFC	Anderson, H. R. Jr.	NAS 6-1667	3384
11	RICE UNIVERSITY	Sofia, S.	HQ-SA	Clayton, D. D.	NSG 7015	3395
11	SACRAMENTO CITY COL	Timothy, A. F.	HQ-ST	Vorpahl, J. A.	NGR 05-084-002	1272
11	SAN DIEGO STATE UNIV	Roosen, R. G.	GSFC	Angione, R. J.	NAS 5-23249	1273
11	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Hagar, C.	NCA 2-660504	1280
11	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Hagar, C.	NCA 2-660603	1285
11	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Maddock, M. E.	NCA 2-675612	1317
11	SAN JOSE STATE UNIV	Reynolds, R. T.	ARC	Riegel, C. A.	NSG 2047	1325
11	SO UNIV-BATON ROUGE	Estabrook, F. B.	JPL	Chakkalakal, D. A.	NGR 19-005-006	2251
11	STANFORD UNIVERSITY	Zill, L. P.	ARC	Ritson, D.	NCA 2-745514	1362
11	STANFORD UNIVERSITY	Caroff, L. J.	ARC	Petrosian, V.	NCA 2-745613	1378
11	STANFORD UNIVERSITY	Chisel, D. M.	ARC	Walker, A. B., Jr.	NSG 2049	1422
11	STANFORD UNIVERSITY	Campbell, C. E.	GSFC	Hofstadter, R.	NAS 5-20987	1342
11	STANFORD UNIVERSITY	Weinreb, M. B.	GSFC	Walker, A. B., Jr.	NAS 5-23618	1345
11	STANFORD UNIVERSITY	Sofia, S.	HQ-SA	Hofstadter, R.	NGR 05-020-452	1400
11	STANFORD UNIVERSITY	Boggess, N. W.	HQ-SA	Petrosian, V.	NGR 05-020-510	1402
11	STANFORD UNIVERSITY	Jordan, S. D.	HQ-SA	Wilcox, J. M.	NGR 05-020-559	1403
11	STANFORD UNIVERSITY	Sofia, S.	HQ-SA	Sturrock, P. A.	NGR 05-020-668	1409
11	STANFORD UNIVERSITY	Timothy, A. F.	HQ-ST	Jordan, T. H.	NSG 7092	1438
11	STANFORD UNIVERSITY	Timothy, A. F.	HQ-ST	Walker, A. B., Jr.	NSG 7099	1439
11	STATE UNIV NY-ALBANY	Gary, G. A.	MSFC	Weinberg, J. L.	NSG 8040	2996
11	ST U NY COL-GENESEO	Roman, N. G.	HQ-SA	Meisel, D. D.	NGR 33-219-002	3030
11	STATE U NY-STONY BRK	Chiu, H. Y.	GSFC	Owen, T.	NGL 33-015-082	3007
11	STATE U NY-STONY BRK	Sofia, S.	HQ-SA	Forman, M. A.	NGR 33-015-180	3016
11	STATE U NY-STONY BRK	Brunk, W. E.	HQ-SL	Owen, T.	NGR 33-015-141	3011
11	STATE U NY-STONY BRK	Timothy, A. F.	HQ-ST	Stroke, G. W.	NSG 7003	3021
11	UNIV ALA-HUNTSVILLE	Parnell, T. A.	MSFC	Hiser, H. W.	NAS 8-24908	1041
11	UNIV ALA-HUNTSVILLE	Timothy, A. F.	HQ-ST	Rao, G. L.	NGR 01-008-015	1066
11	UNIV ALA-TUSCALOOSA	Miller, E. R.	MSFC	Fay, T. D.	NAS 8-31343	1079
11	UNIV OF ARIZONA	Hall, C. F.	ARC	Gehrels, A. M.	NAS 2-6265	1102
11	UNIV OF ARIZONA	Zill, L. P.	ARC	Hubbard, W. B., Jr.	NCA 2-40602	1119
11	UNIV OF ARIZONA	Caroff, L. J.	ARC	Weymann, R. J.	NCA 2-40604	1120
11	UNIV OF ARIZONA	Cameron, R. M.	ARC	Larson, H. P.	NGR 03-002-332	1142
11	UNIV OF ARIZONA	Cameron, R. M.	ARC	Hoffman, W. F.	NGR 03-002-390	1149
11	UNIV OF ARIZONA	Cameron, R. M.	ARC	Woolf, N.	NSG 2042	1150
11	UNIV OF ARIZONA	Hymowitz, E. W.	GSFC	Low, F. J.	NAS 5-22599	1105
11	UNIV OF ARIZONA	Browning, R. K.	GSFC	Bowen, T.	NAS 5-23176	1106
11	UNIV OF ARIZONA	Maran, S. P.	GSFC	Dunkelman, L.	NCA 5-8	1121
11	UNIV OF ARIZONA	Maran, S. P.	GSFC	Sonett, C. P.	NCA 5-12	1122
11	UNIV OF ARIZONA	Maran, S. P.	GSFC	Dunkelman, L.	NCA 5-37	1123
11	UNIV OF ARIZONA	Pearl, J. C.	GSFC	Fink, U. W.	NCA 5-47	1126
11	UNIV OF ARIZONA	Maran, S. P.	GSFC	Sonett, C. P.	NCA 5-62	1127
11	UNIV OF ARIZONA	Sobieski, S.	GSFC	Serkowski, K. M.	NGR 03-002-363	1143
11	UNIV OF ARIZONA	Sobieski, S.	GSFC	Gilbert, G. R.	NGR 03-002-372	1146
11	UNIV OF ARIZONA	Sobieski, S.	GSFC	Angel, J. R.	NSG 5001	1152
11	UNIV OF ARIZONA	Hansen, J. E.	GSFC	Gehrels, A. M.	NSG 5043	1155
11	UNIV OF ARIZONA	Miller, E. R.	MSFC	Sonett, C. P.	NAS 8-31192	1109
11	UNIV OF ARIZONA	Miller, E. R.	MSFC	Sonett, C. P.	NAS 8-31196	1110
11	UNIV OF ARIZONA	Roman, N. G.	HQ-SA	Bashkin, S.	NGL 03-002-017	1130
11	UNIV OF ARIZONA	Roman, N. G.	HQ-SA	Tifft, W. G.	NGL 03-002-032	1132
11	UNIV OF ARIZONA	Opp, A. G.	HQ-SA	Bowen, T.	NGR 03-002-071	1137
11	UNIV OF ARIZONA	Boggess, N. B.	HQ-SA	Low, F. J.	NGR 03-002-269	1141
11	UNIV OF ARIZONA	Boggess, N. W.	HQ-SA	Hoffman, W. F.	NGR 03-002-371	1145
11	UNIV OF ARIZONA	Sofia, S.	HQ-SA	Jokippi, J.	NSG 7101	1163
11	UNIV OF ARIZONA	Brunk, W. E.	HQ-SL	Sonett, C. P.	NGL 03-002-002	1128

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	UNIV OF ARIZONA	Fellows, R. F.	HQ-SL	Gehrels, T.	NGL 03-002-081	1133
11	UNIV OF ARIZONA	Brunk, W. E.	HQ-SL	Roemer, E.	NGL 03-002-122	1134
11	UNIV OF ARIZONA	Brunk, W. E.	HQ-SL	Gehrels, A. M.	NGR 03-002-219	1140
11	UNIV OF ARIZONA	Brunk, W. E.	HQ-SL	Hubbard, W. B., Jr.	NSG 7045	1161
11	UNIV OF ARIZONA	Brunk, W. E.	HQ-SL	Fink, U. W.	NSG 7070	1162
11	UNIV OF ARIZONA	Brunk, W. E.	HQ-SL	Rieke, G. H.	NSG 7114	1164
11	UNIV OF ARIZONA	Fellows, R. F.	HQ-SL	Gehrels, A. M.	NSG 7123	1165
11	UNIV OF ARIZONA	Brunk, W. E.	HQ-SL	Hubbard, W. B., Jr.	NSG 7238	1170
11	UNIV ARKANSAS-FAYETV	Rosendhal, J. D.	HQ-SA	Hughes, R. H.	NSG 7106	1179
11	UNIV CALIF-BERKELEY	Cameron, R. M.	ARC	Townes, C. H.	NGR 05-003-511	1486
11	UNIV CALIF-BERKELEY	Cameron, R. M.	ARC	Muller, R. A.	NSG 2125	1498
11	UNIV CALIF-BERKELEY	Bissell, E. E., Jr.	GSFC	Bowyer, C. S.	NGR 05-003-450	1479
11	UNIV CALIF-BERKELEY	Kupperian, J. E.	GSFC	Spinrad, H.	NGR 05-003-587	1492
11	UNIV CALIF-BERKELEY	Kupperian, J. E.	GSFC	Bowyer, C. S.	NSG 5057	1504
11	UNIV CALIF-BERKELEY	Boggess, N. W.	HQ-SA	Townes, C. H.	NGL 05-003-272	1469
11	UNIV CALIF-BERKELEY	Sofia, S.	HQ-SA	Price, P. B.	NGR 05-003-376	1477
11	UNIV CALIF-BERKELEY	Sofia, S.	HQ-SA	Heckman, H. H.	NGR 05-003-513	1487
11	UNIV CALIF-BERKELEY	Sofia, S.	HQ-SA	Alvarez, L. W.	NGR 05-003-553	1488
11	UNIV CALIF-BERKELEY	Rosendhal, J. D.	HQ-SA	Silk, J. I.	NGR 05-003-578	1491
11	UNIV CALIF-BERKELEY	Rosendhal, J. D.	HQ-SA	Bowyer, C. S.	NSG 7139	1507
11	UNIV CALIF-BERKELEY	Boggess, N. W.	HQ-SA	Richards, P. L.	NSG 7205	1509
11	UNIV CALIF-BERKELEY	Brunk, W. E.	HQ-SL	Townes, C. H.	NGR 05-003-452	1481
11	UNIV CALIF-BERKELEY	Brunk, W. E.	HQ-SL	Silver, S.	NSG 7152	1508
11	UNIV CALIF-BERKELEY	Timothy, A. F.	HQ-ST	Anderson, K. A.	NGR 05-003-510	1485
11	UNIV CALIF-BERKELEY	Ericson, E. F.	HQ	Gaustad, J.	NCA 2-50606	1464
11	UNIV CALIF-L ANGELES	Hall, C. F.	ARC	Coleman, P. J., Jr.	NAS 2-7251	1532
11	UNIV CALIF-L ANGELES	Hall, C. F.	ARC	Kaula, W. M.	NAS 2-9128	1535
11	UNIV CALIF-L ANGELES	Hall, C. F.	ARC	Schubert, G.	NAS 2-9131	1536
11	UNIV CALIF-L ANGELES	Kupperian, J. E.	GSFC	Plavec, M.	NGR 05-007-489	1577
11	UNIV CALIF-L ANGELES	Kupperian, J. E.	GSFC	Peters, C. J.	NSG 5056	1583
11	UNIV CALIF-L ANGELES	Kupperian, J. E.	GSFC	Jura, M. A.	NSG 5070	1584
11	UNIV CALIF-L ANGELES	Donn, B. D.	HQ-SL	Wetherill, G. W.	NGL 05-007-005	1556
11	UNIV CALIF-L ANGELES	Dwornik, S. E.	HQ-SL	Kaula, W. M.	NSG 7113	1587
11	UNIV CALIF-RIVERSIDE	Sofia, S.	HQ-SA	White, R. S.	NGR 05-008-022	1593
11	UNIV CALIF-SAN DIEGO	Hall, C. F.	ARC	Fillius, R. W.	NAS 2-6552	1594
11	UNIV CALIF-SAN DIEGO	Cameron, R. M.	ARC	Soifer, B. T.	NGL 05-009-220	1615
11	UNIV CALIF-SAN DIEGO	Cameron, R. M.	ARC	Stein, W. A.	NGR 05-005-055	1617
11	UNIV CALIF-SAN DIEGO	White, A. F., Jr.	GSFC	Peterson, L. E.	NAS 5-22375	1598
11	UNIV CALIF-SAN DIEGO	Hymowitz, E. W.	GSFC	Soifer, B. T.	NAS 5-22556	1599
11	UNIV CALIF-SAN DIEGO	Bartlett, R. O.	GSFC	McIlwain, C. E.	NAS 5-23481	1600
11	UNIV CALIF-SAN DIEGO	Sobieski, S.	GSFC	Beaver, E. A.	NGR 05-009-239	1629
11	UNIV CALIF-SAN DIEGO	Jordan, W. E.	MSFC	Peterson, L. E.	NAS 8-27974	1602
11	UNIV CALIF-SAN DIEGO	Fountain, W. F.	MSFC	Hudson, H. S.	NAS 8-28015	1603
11	UNIV CALIF-SAN DIEGO	Stanley, H. R.	WFC	Hendershott, M.	NAS 6-2506	1601
11	UNIV CALIF-SAN DIEGO	Roman, N. G.	HQ-SA	Gould, R. J.	NGL 05-005-004	1607
11	UNIV CALIF-SAN DIEGO	Aucremanne, M. J.	HQ-SA	McIlwain, C. E.	NGR 05-009-188	1624
11	UNIV CALIF-SAN DIEGO	Fellows, R. F.	HQ-SL	Alfven, H.	NGR 05-009-110	1622
11	UNIV CALIF-SAN DIEGO	Timothy, A. F.	HQ-ST	Penner, S. S.	NGR 05-009-226	1628
11	UNIV CALIF-S CRUZ	Boggess, N. W.	HQ-SA	Rank, D. M.	NGR 05-061-015	1662
11	UNIV OF CHICAGO	Hall, C. F.	ARC	Simpson, J. A.	NAS 2-6551	2051
11	UNIV OF CHICAGO	Cameron, R. M.	ARC	Harper, D. A., Jr.	NGR 14-001-211	2068
11	UNIV OF CHICAGO	Gillespie, C. M., Jr.	ARC	Harper, D. A., Jr.	NGR 14-001-227	2070
11	UNIV OF CHICAGO	Cameron, R. M.	ARC	Hildebrand, R. H.	NSG 2057	2072
11	UNIV OF CHICAGO	White, A. F., Jr.	GSFC	Meyer, P.	NAS 5-20967	2054
11	UNIV OF CHICAGO	Kupperian, J. E.	GSFC	Parker, E. N.	NSG 5068	2073
11	UNIV OF CHICAGO	Opp, A. G.	HQ-SA	Parker, E. N.	NGL 14-001-001	2055
11	UNIV OF CHICAGO	Pellerin, C.	HQ-SA	Meyer, P.	NGL 14-001-005	2056
11	UNIV OF CHICAGO	Sofia, S.	HQ-SA	Simpson, J. A.	NGL 14-001-006	2057

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	UNIV OF CHICAGO	Rosendhal, J. D.	HQ-SA	Hobbs, L. M.	NGR 14-001-147	2065
11	UNIV OF CHICAGO	Timothy, A. F.	HQ-ST	Blake, R. L.	NGR 14-001-164	2066
11	UNIV OF CINCINNATI	Lancaster, E. R.	GSFC	Danielli, J. F.	NGR 36-004-068	3138
11	UNIV OF CINCINNATI	Brunk, W. E.	HQ-SL	Herget, P.	NGR 36-004-075	3139
11	UNIV COLORADO-BOLDR	Cameron, R. M.	ARC	Webb, W.	NSG 2055	1791
11	UNIV COLORADO-BOLDR	Underhill, A. B.	GSFC	Conti, P. S.	NAS 5-22833	1764
11	UNIV COLORADO-BOLDR	Weinreb, M. R.	GSFC	Barth, C. A.	NAS 5-22960	1765
11	UNIV COLORADO-BOLDR	Underhill, A. B.	GSFC	Linsky, J. L.	NAS 5-23274	1766
11	UNIV COLORADO-BOLDR	Kaiet, M. W.	GSFC	Gause, K.	NAS 5-23577	1768
11	UNIV COLORADO-BOLDR	Bissell, E. E., Jr.	GSFC	Lillie, C. F.	NGR 06-003-176	1779
11	UNIV COLORADO-BOLDR	Sobieski, S.	GSFC	Lillie, C. F.	NGR 06-003-219	1786
11	UNIV COLORADO-BOLDR	Kupperian, J. E.	GSFC	Conti, P. S.	NSG 5098	1794
11	UNIV COLORADO-BOLDR	Rosendhal, J. D	HQ-SA	Laurence, G. M.	NASW 2913	1772
11	UNIV COLORADO-BOLDR	Roman, N. G.	HQ-SA	Lillie, C. F.	NGR 06-003-179	1780
11	UNIV COLORADO-BOLDR	Calahan, H. D.	HQ-SA	Linsky, J. L.	NGR 06-003-216	1785
11	UNIV COLORADO-BOLDR	Roman, N. G.	HQ-SA	Lillie, C. F.	NGR 06-003-222	1787
11	UNIV COLORADO-BOLDR	Sofia, S.	HQ-SA	McCray, R.	NSG 7128	1796
11	UNIV COLORADO-BOLDR	Timothy, A. F.	HQ-ST	Barth, C. A.	NGR 06-003-069	1777
11	UNIV OF DENVER	Kupperian, J. E.	GSFC	Lesh, J. R.	NSG 5004	1813
11	UNIV OF DENVER	Kupperian, J. E.	GSFC	Lesh, J. R.	NSG 5069	1814
11	UNIV OF FLORIDA	Kupperian, J. E.	GSFC	Chen, K. W.	NSG 5116	1931
11	UNIV OF FLORIDA	Rosendhal, J. D.	HQ-SA	Carr, T. D.	NSG 7143	1932
11	UNIV OF HAWAII-MANOA	Bissell, E. E., Jr.	GSFC	Jeffries, J. T.	NGR 12-001-075	2027
11	UNIV OF HAWAII-MANOA	Kupperian, J. E.	GSFC	Boesgaard, A. M.	NSG 5027	2030
11	UNIV OF HAWAII-MANOA	Kupperian, J. E.	GSFC	Boesgaard, A. M.	NSG 5096	2031
11	UNIV OF HAWAII-MANOA	Weir, J. F.	HQ-BX	Jefferies, J. T.	NASW 2742	2021
11	UNIV OF HAWAII-MANOA	Weir, J. F.	HQ-BX	Jefferies, J. T.	NASW 2801	2022
11	UNIV OF HAWAII-MANOA	Strickland, A. T.	HQ-SL	Jefferies, J. T.	NASW 2326	2020
11	UNIV OF HAWAII-MANOA	Brunk, W. E.	HQ-SL	Jefferies, J. T.	NGL 12-001-057	2026
11	UNIV OF HAWAII-MANOA	Brunk, W. E.	HQ-SL	Jefferies, J. T.	NSR 12-001-019	2033
11	UNIV OF HAWAII-MANOA	Strickland, A. T.	HQ-SM	Jefferies, J. T.	NGF 12-001-102	2023
11	UNIV OF HAWAII-MANOA	Timothy, A. F.	HQ-ST	Jefferies, J. T.	NGL 12-001-011	2024
11	UNIV HOUSTON-HOUSTON	Golden, R. L.	JSC	Sheldon, W. R.	NAS 9-14209	3450
11	UNIV ILLINOIS-URBANA	Brunk, W. E.	HQ-SL	Dickel, J. R.	NGR 14-005-176	2079
11	UNIV OF IOWA	Hall, C. F.	ARC	Van Allen, J. A.	NAS 2-6553	2168
11	UNIV OF IOWA	White, C. E.	GSFC	Gurnett, D. A.	NAS 5-11279	2172
11	UNIV OF IOWA	Allen, R. F., Jr.	GSFC	Van Allen, J. A.	NAS 5-20539	2176
11	UNIV MARYLAND-BALT	Roman, N. G.	HQ-SA	Misner, C. W.	NGR 21-002-010	2297
11	UNIV MARYLAND-COL PK	Zill, L. P.	ARC	Ponnamperuma, C. A.	NCA 2-420501	2310
11	UNIV MARYLAND-COL PK	Fischel, D.	GSFC	Rosenfeld, A.	NCA 5-1	2312
11	UNIV MARYLAND-COL PK	Fischel, D.	GSFC	Rosenfeld, A.	NCA 5-10	2317
11	UNIV MARYLAND-COL PK	Fischel, D.	GSFC	Harger, R.	NCA 5-11	2318
11	UNIV MARYLAND-COL PK	Fainberg, J.	GSFC	Kundu, M. R.	NGL 21-002-367	2321
11	UNIV MARYLAND-COL PK	Clark, T. A.	GSFC	Richard, J. P.	NSG 5035	2350
11	UNIV MARYLAND-COL PK	Kupperian, J. E.	GSFC	Bell, R. A.	NSG 5059	2354
11	UNIV MARYLAND-COL PK	Opp, A. G.	HQ-SA	Earl, J. A.	NGR 21-002-066	2324
11	UNIV MARYLAND-COL PK	Rosendhal, J. D.	HQ-SA	Griem, H. R.	NGR 21-002-073	2325
11	UNIV MARYLAND-COL PK	Sofia, S.	HQ-SA	Gloeckler, G.	NGR 21-002-224	2328
11	UNIV MARYLAND-COL PK	Brunk, W. E.	HQ-SL	Opik, E. J.	NGR 21-002-002	2322
11	UNIV MARYLAND-COL PK	Timothy, A. F.	HQ-ST	Wilkerson, T. D.	NGR 21-002-007	2323
11	UNIV MARYLAND-COL PK	Cauffman, D. P.	HQ-ST	Matthews, D. L.	NGR 21-002-386	2335
11	UNIV OF MASS-AMHERST	Hall, C. F.	ARC	McGill, G. E.	NAS 2-9129	2534
11	UNIV OF MASS-AMHERST	Brunk, W. E.	HQ-SL	Irvine, W. M.	NGL 22-010-023	2537
11	UNIV OF MASS-AMHERST	Timothy, A. F.	HQ-ST	Strong, J.	NGL 22-010-025	2538
11	UNIV MICH-ANN ARBOR	Hall, C. F.	ARC	Donahue, T. M.	NAS 2-9126	2552
11	UNIV MICH-ANN ARBOR	Hall, C. F.	ARC	Nagy, A. F.	NAS 2-9130	2553
11	UNIV MICH-ANN ARBOR	Kupperian, J. E.	GSFC	Donahue, T. M.	NSG 5097	2599
11	UNIV MICH-ANN ARBOR	Kupperian, J. E.	GSFC	Donahue, T. M.	NSG 5117	2600

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	UNIV MICH-ANN ARBOR	Rosendhal, J. D.	HQ-SA	Hiltner, W. A.	NGR 23-005-464	2581
11	UNIV MICH-ANN ARBOR	Timothy, A. F.	HQ-ST	Mohler, O. C.	NGL 23-005-275	2576
11	UNIV MICH-ANN ARBOR	Timothy, A. F.	HQ-ST	Teske, R. G.	NGR 23-005-543	2587
11	UNIV MICH-ANN ARBOR	Schmerling, E. R.	HQ-ST	Donahue, T. M.	NSG 7137	2602
11	U MINN-MNPLS-ST PAUL	Cameron, R. M.	ARC	Ney, E. P.	NGR 24-005-267	2637
11	U MINN-MNPLS-ST PAUL	Cameron, R. M.	ARC	Ney, E. P.	NSG 2014	2639
11	U MINN-MNPLS-ST PAUL	White, C. E.	GSFC	Kellogg, P. J.	NAS 5-11310	2620
11	U MINN-MNPLS-ST PAUL	Krome, H. O.	MSFC	Waddington, C. J.	NAS 8-27977	2624
11	U MINN-MNPLS-ST PAUL	Opp, A. G.	HQ-SA	Waddington, C. J.	NGR 24-005-090	2632
11	U MINN-MNPLS-ST PAUL	Roman, N. G.	HQ-SA	Luyten, W. J.	NSR 24-005-245	2649
11	UNIV NEW HAMP-DURHAM	Teegarden, B. J.	GSFC	Webber, W. R.	NAS 5-11276	2736
11	UNIV NEW HAMP-DURHAM	Wales, R. O.	GSFC	Arnoldy, R. L.	NAS 5-11694	2737
11	UNIV NEW HAMP-DURHAM	Donley, J. L.	GSFC	Chupp, E. L.	NAS 5-23493	2739
11	UNIV NEW HAMP-DURHAM	Sofia, S.	HQ-SA	Chupp, E. L.	NGL 30-002-021	2741
11	UNIV NEW HAMP-DURHAM	Pellerin, C.	HQ-SA	Webber, W. R.	NGR 30-002-052	2742
11	UNIV OF NEW MEXICO	Temkin, A.	GSFC	Beckel, C. L.	NCA 5-55	2826
11	UNIV OF NEW MEXICO	Jones, H. P.	GSFC	Regener, V. H.	NCA 5-56	2827
11	UNIV OF NEW MEXICO	Maran, S. P.	GSFC	St John, R.	NCA 5-57	2828
11	UNIV OF NEW MEXICO	Boggess, N. W.	HQ-SA	Peterson, A. W.	NGR 32-004-068	2835
11	UNIV OREGON-EUGENE	Cameron, R. M.	ARC	Donnelly, R. J.	NGR 38-003-034	3190
11	UNIV OF PITTSBURGH	Billingham, J.	ARC	Gatewood, G. D.	NSG 2116	3286
11	UNIV OF PITTSBURGH	Black, D.	ARC	Gatewood, G. D.	NSG 2117	3287
11	UNIV OF PITTSBURGH	Dwornik, S. E.	HQ-SL	Hapke, B. W.	NSG 7147	3291
11	UNIV OF ROCHESTER	Cameron, R. M.	ARC	Pipher, J. L.	NGR 33-019-127	3037
11	UNIV OF ROCHESTER	Kupperian, J. E.	GSFC	Savedoff, M. P.	NSG 5054	3039
11	UNIV OF SANTA CLARA	Zill, L. P.	ARC	McCormick, P. T.	NCA 2-685610	1689
11	UNIV OF SO FLORIDA	Roman, N. G.	HQ-SA	Wilson, R. E.	NSG 7242	1951
11	UNIV OF SOUTHERN CAL	Hall, C. F.	ARC	Judge, D. L.	NAS 2-6558	1703
11	UNIV OF SOUTHERN CAL	Hall, C. F.	ARC	Intriligator, D. S.	NAS 2-7969	1704
11	UNIV TENNESSEE-KNOXV	Harris, J. W.	JSC	Taylor, L. A.	NGL 43-001-140	3339
11	UNIV TENNESSEE-KNOXV	Timothy, A. F.	HQ-ST	Sellin, I. A.	NSG 7049	3349
11	UNIV TEXAS-AUSTIN	Mason, R. H.	ARC	Ulrich, B. T.	NGR 44-012-240	3501
11	UNIV TEXAS-AUSTIN	Sobieski, S.	GSFC	Tull, R. G.	NGR 44-012-260	3503
11	UNIV TEXAS-AUSTIN	Sobieski, S.	GSFC	Nather, R. E.	NGR 44-012-261	3504
11	UNIV TEXAS-AUSTIN	Kupperian, J. E.	GSFC	Lambert, D. L.	NSG 5005	3513
11	UNIV TEXAS-AUSTIN	Kupperian, J. E.	GSFC	Parsons, S. B.	NSG 5031	3514
11	UNIV TEXAS-AUSTIN	Kupperian, J. E.	GSFC	Smith, H. J.	NSG 5115	3515
11	UNIV TEXAS-AUSTIN	Potter, A. E.	JSC	Barnes, T. G., III	NAS 9-12568	3485
11	UNIV TEXAS-AUSTIN	Williams, J. R.	MSFC	Henize, K.	NAS 8-31459	3483
11	UNIV TEXAS-AUSTIN	Rosendhal, J. D.	HQ-SA	Vanden Bout, P. A.	NGR 44-012-209	3498
11	UNIV TEXAS-AUSTIN	Roman, N. G.	HQ-SA	Wheeler, J. C.	NSG 7232	3518
11	UNIV TEXAS-AUSTIN	Brunk, W. E.	HQ-SL	Cogdell, J. R.	NGL 44-012-006	3491
11	UNIV TEXAS-AUSTIN	Brunk, W. E.	HQ-SL	Douglas, J. N.	NGL 44-012-055	3493
11	UNIV TEXAS-AUSTIN	Brunk, W. E.	HQ-SL	Mulholland, J. D.	NGR 44-012-152	3495
11	UNIV TEXAS-AUSTIN	Strickland, A. T.	HQ-SL	Mulholland, J. D.	NGR 44-012-219	3499
11	UNIV TEXAS-AUSTIN	Brunk, W. E.	HQ-SL	Trafton, L. M.	NGR 44-012-282	3507
11	UNIV TEXAS-AUSTIN	Timothy, A. F.	HQ-ST	Bengtson, P. D.	NGR 44-012-258	3502
11	UNIV TEXAS-DALLAS	Opp, A. G.	HQ-SA	Allum, F. R.	NGR 44-004-133	3534
11	UNIV OF TOLEDO	Kupperian, J. E.	GSFC	Molnar, M. R.	NGR 36-010-031	3154
11	UNIV OF TOLEDO	Kupperian, J. E.	GSFC	Molnar, M. R.	NSG 5006	3158
11	UNIV OF TOLEDO	Rosendhal, J. D.	HQ-SA	Witt, A. N.	NSG 7041	3159
11	UNIV OF TOLEDO	Roman, N. G.	HQ-SA	Molnar, M. R.	NSG 7138	3160
11	UNIV OF VIRGINIA	Leckrone, D. S.	GSFC	Counselman, C. C., III	NAS 5-22346	3665
11	UNIV OF VIRGINIA	Sobieski, S.	GSFC	Frederick, L. W.	NGR 47-005-204	3673
11	UNIV OF VIRGINIA	Alvarez, J. M.	LARC	Singer, S. F.	NSG 1256	3683
11	UNIV OF VIRGINIA	Roman, N. G.	HQ-SA	Frederick, L. W.	NGL 47-005-066	3668
11	UNIV OF WASHINGTON	Underhill, A. B.	GSFC	Bohm-Vitense, E.	NAS 5-22379	3738
11	UNIV OF WASHINGTON	Fellows, R. F.	HQ-SL	Hodge, P. W.	NGR 48-002-033	3749

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
11	UNIV OF WASHINGTON	Brunk, W. E.	HQ-SL	Jin, R. S.	NGR 48-002-142	3753
11	UNIV WISC-MADISON	Leckrone, D. S.	GSFC	Anderson, C. M.	NAS 5-22349	3779
11	UNIV WISC-MADISON	Sobieski, S.	GSFC	Bless, R. C.	NAS 5-23285	3781
11	UNIV WISC-MADISON	Bissell, E. E., Jr.	GSFC	Code, A. D.	NGL 50-002-013	3789
11	UNIV WISC-MADISON	Sobieski, S.	GSFC	Roesler, F. L.	NGR 50-002-223	3797
11	UNIV WISC-MADISON	Kupperian, J. E.	GSFC	Savage, B. D.	NSG 5100	3801
11	UNIV WISC-MADISON	Odell, C. R.	MSFC	Code, A. D.	NAS 8-29387	3786
11	UNIV WISC-MADISON	Sofia, S.	HQ-SA	Kraushaar, W. L.	NGL 50-002-044	3790
11	UNIV WISC-MADISON	Boggess, N. W.	HQ-SA	Scherb, F.	NSG 7033	3802
11	UNIV WISC-MADISON	Roman, N. G.	HQ-SA	Code, A. D.	NSG 7050	3803
11	UNIV WISC-MADISON	Rosendhal, J. D.	HQ-SA	Savage, B. D.	NSG 7133	3804
11	VIRGINIA POLY INST	Fedor, J. V.	GSFC	Meirovitch, L.	NGR 47-004-126	3703
11	VIRGINIA POLY INST	Fellows, R. F.	HQ-SL	McGee, H. A.	NGL 47-004-080	3698
11	WASHINGTON TECH INST	Hobbs, R. W.	GSFC	Kasten, A.	NCA 5-40	1895
11	WASHINGTON UNIVERSTY	Krome, H. O.	MSFC	Israel, M. H.	NAS 8-27976	2708
11	WASHINGTON UNIVERSTY	Sofia, S.	HQ-SA	Klarmann, J.	NGR 26-008-[illegible]	2712
11	YALE UNIVERSITY	Sobieski, S.	GSFC	Van Altena, W. F.	NAS 5-20841	1823
11	YESHIVA UNIVERSITY	Hansen, J. E.	GSFC	Cameron, A. G.	NGL 33-023-018	3042
12	A[illegible]PHI UNIVERSITY	Buell, D. A.	ARC	Steinmetz, W. J.	NSG 2088	2842
12	ARIZONA STATE UNIV	Zill, L. P.	ARC	Yuen, G. U.	NCA 2-35601	1093
12	ATHENS COLLEGE	Arnett, G. M.	MSFC	Workman, G. L.	NAS 8-31731	1014
12	ATLANTA UNIVERSITY	Curry, J. E.	MSFC	Reed, J. L.	NSG 8019	1952
12	AUBURN UNIV-AUBURN	Shackelford, B. W.	MSFC	Sforzini, R. H.	NCA 8-106	1025
12	BENDEDICT COLLEGE	Kent, M. I.	MSFC	Kinard, J. T.	NSG 8004	3303
12	BENNETT COLLEGE-NC	Cofer, W. R., III	LARC	Greaux, A. E.	NSG 1032	3045
12	BOWIE STATE COLLEGE	Gross, F. C.	GSFC	Rock, M.	NSG 5009	2272
12	CALIF INST OF TECH	Wydeven, T., Jr.	ARC	Shair, F.	NSG 2154	1233
12	CALIF INST OF TECH	Harris, J. W.	JSC	Silver, L. T.	NGL 05-002-187	1208
12	CALIF INST OF TECH	Harris, J. W.	JSC	Wasserburg, G. J.	NGL 05-002-188	1209
12	CAL STATE U-CHICO	Kourtides, D. A.	ARC	Sours, R.	NSG 2163	1255
12	CAL STATE U-FULLERTN	Young, R. S.	HQ-SB	Wegner, P. A.	NGR 05-071-008	1257
12	CASE WESTERN RESERVE	Quattrone, P. D.	ARC	Yeager, E.	NGR 36-027-050	3083
12	CASE WESTERN RESERVE	Kohl, F. J.	LERC	Mateescu, G. D.	NSG 3009	3089
12	CASE WESTERN RESERVE	Bannister, T. C.	MSFC	Ostrach, S.	NAS 8-31907	3080
12	CATHOLIC UNIVERSITY	Fichtel, C. E.	GSFC	Crannell, H.	NGR 09-005-077	1838
12	CATHOLIC UNIVERSITY	Stief, L. J.	GSFC	Timmons, R. B.	NGR 09-005-103	1840
12	CLARKSON COL OF TECH	Serafini, T. T.	LERC	Jellinek, H. H.	NSG 3100	2861
12	COLLEGE OF WM & MARY	Young, P. R.	LARC	Kranbuehl, D. E.	NSG 1095	3587
12	COLLEGE OF WM & MARY	Cofer, W. R., III	LARC	Tyree, S. Y., Jr.	NSG 1204	3589
12	COLUMBIA UNIVERSITY	Harris, J. W.	JSC	Ridley, W. I.	NGR 33-008-199	2883
12	COPPIN STATE COLLEGE	Webster, W. H., Jr.	GSFC	McDermott, P. P.	NSG 5051	2275
12	CORNELL UNIVERSITY	Young, R. S.	HQ-SB	Sagan, C. E.	NGR 33-010-101	2913
12	ELIZABETH CITY ST U	Conway, E. J.	LARC	Chatterjee, K. K.	NSG 1179	3052
12	FISK UNIVERSITY	Parnell, T. A.	MSFC	Mickens, R. E.	NSG 8035	3319
12	HAMPTON INSTITUTE	Jachimowski, C. J.	LARC	Hunter, C. E.	NSG 1086	3598
12	HARVARD UNIVERSITY	Harris, J. W.	JSC	Hays, J. F.	NGL 22-007-247	2395
12	HOWARD UNIVERSITY	Stief, L. J.	GSFC	Jackson, W. M.	NSG 5071	1890
12	INDIANA U-BLOOMINGTN	Zill, L. P.	ARC	Hayes, J. M.	NCA 2-335501	2105
12	INDIANA U-BLOOMINGTN	Zill, L. P.	ARC	Hayes, J. M.	NCA 2-335601	2106
12	INDIANA U-BLOOMINGTN	Harris, J. W.	JSC	Meinschein, W. G.	NGR 15-003-105	2110
12	KENT STATE UNIV-KENT	Quattrone, P. D.	ARC	Madey, R.	NSG 2013	3107
12	KENTUCKY STATE UNIV	Patterson, W. J.	MSFC	Marano, G. A.	NSG 8008	2223
12	LEHIGH UNIVERSITY	Harris, J. W.	JSC	Goldstein, J. I.	NGR 39-007-056	3219
12	LEHIGH UNIVERSITY	Cliff, W. C.	MSFC	Poehlein, G. W.	NCA 8-123	3215
12	MASS INST OF TECH	Quattrone, P. D.	ARC	Reid, R. C.	NGR 22-009-723	2473
12	MASS INST OF TECH	Quattrone, P. D.	ARC	Steinfeld, J. I.	NGR 22-009-766	2479
12	MASS INST OF TECH	Quattrone, P. D.	ARC	Modell, M.	NGR 22-009-799	2485
12	MASS INST OF TECH	Harris, J. W.	JSC	Burns, R. G.	NGR 22-009-551	2466

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
12	MASS INST OF TECH	Hess, R. V.	LARC	Wrighton, M. S.	NSG 1048	2491
12	MASS INST OF TECH	Young, R. S.	HQ-SB	Rich, A.	NGR 22-009-277	2459
12	MOREHOUSE COLLEGE	Stephens, J. B.	MSFC	Gales, J. N.	NGL 11-008-001	2002
12	MOREHOUSE COLLEGE	Clemons, J. M.	MSFC	Frazier, D. O.	NSG 8030	2006
12	MORRIS BROWN COLLEGE	Patterson, W. J.	MSFC	Weaver, F.	NSG 8027	2008
12	NM HIGHLANDS UNIV	Bryan, C. J.	KSC	Clark, R. D.	NSG 804	2795
12	NO DAKOTA STATE UNIV	Hall, L. B.	HQ-SB	Hill, T. W.	NGR 35-001-012	3076
12	OAKWOOD COLLEGE	Kent, M. I.	MSFC	Richardson, D.	NSG 8017	1033
12	OLD DOMINION UNIV	Johnston, N. J.	LARC	Williams, R. L.	NGL 47-003-008	3608
12	PENN STATE U-UNIV PK	Slemp, W. S.	LARC	Allcock, H. R.	NSG 1141	3249
12	POLY INST OF NY	Zill, L. P.	ARC	Pearce, E. M.	NCA 2-595501	2959
12	POLY INST OF NY	Fohlen, G. M.	ARC	Pearce, E. M.	NSG 2147	2967
12	POLY INST OF NY	Young, R. S.	HQ-SB	Eirich, F. R.	NGR 33-006-070	2962
12	POMONA COLLEGE	Williams, T. S., Jr.	LARC	Baird, A. K.	NAS 1-11854	1271
12	PRINCETON UNIVERSITY	Billman, K. W.	ARC	Bottoms, W. R.	NSG 2108	2784
12	PRINCETON UNIVERSITY	Kelsall, T. N.	GSFC	Spitzer, L., Jr.	NAS 5-22482	2756
12	PRINCETON UNIVERSITY	Dunning, J. W., Jr.	LERC	Glassman, I.	NGR 31-001-312	2776
12	RENSSELAER POLY-NY	Young, R. S.	HQ-SB	Ferris, J. P.	NGR 33-018-148	2978
12	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Orenberg, J. B.	NCA 2-660410	1276
12	SAN FRAN STATE UNIV	Young, R. S.	HQ-SB	Kenyon, D. H.	NSG 7234	1286
12	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Neptune, J.	NCA 2-675409	1292
12	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Grilione, P.	NCA 2-675608	1314
12	SAN JOSE STATE UNIV	Wydeven, T., Jr.	ARC	Spitze, L. A.	NGR 05-046-011	1324
12	SAN JOSE STATE UNIV	Wydeven, T., Jr.	ARC	Spitze, L. A.	NSG 2066	1326
12	SAN JOSE STATE UNIV	Kourtides, D. A.	ARC	Neptune, J. A.	NSG 2093	1328
12	SAN JOSE STATE UNIV	Bolub, M. A.	ARC	Neptune, J. A.	NSG 2111	1330
12	SHAW UNIVERSITY	Bell, V. L., Jr.	LARC	Chatterji, A. K.	NSG 1033	3073
12	STANFORD UNIVERSITY	Zill, L. P.	ARC	Loew, G. B.	NCA 2-745506	1355
12	STANFORD UNIVERSITY	Zill, L. P.	ARC	Pound, G. M.	NCA 2-745511	1359
12	STANFORD UNIVERSITY	Chang, S.	ARC	Loew, G. H.	NGR 05-020-405	1397
12	STANFORD UNIVERSITY	Wydeven, T., Jr.	ARC	Brauman, J. I.	NSG 2161	1433
12	STATE UNIV NY-BUFFAL	Harris, J. W.	JSC	Cadenhead, D. A.	NGL 33-183-013	3000
12	STATE UNIV NY-BUFFAL	Young, R. S.	HQ-SB	Danielli, J. F.	NGR 33-015-002	3001
12	STATE U NY-STONY BRK	Harris, J. W.	JSC	Schaeffer, O. A.	NGL 33-015-174	3009
12	STATE U NY-STONY BRK	Young, R. S.	HQ-SB	Owen, T.	NGR 33-015-169	3015
12	TEXAS A&M UNIVERSITY	Zill, L. P.	ARC	Flamm, D.	NCA 2-773501	3432
12	TEXAS A&M UNIVERSITY	Young, R. S.	HQ-SB	Fendler, J. H.	NSG 7037	3439
12	UNIV OF ALBUQUERQUE	Fordyce, J. S.	LERC	Urzendowski, R. M.	NSG 3092	2813
12	UNIV ALA-BIRMINGHAM	Young, R. S.	HQ-SB	Lacey, J. C., Jr.	NGR 01-010-001	1040
12	UNIV OF ARIZONA	Harris, J. W.	JSC	Drake, M. J.	NGR 03-002-388	1148
12	UNIV CALIF-BERKELEY	Riccitiello, S. R.	ARC	Williamson, R. B.	NSG 2084	1496
12	UNIV CALIF-BERKELEY	Harris, J. W.	JSC	Price, P. B.	NGL 05-003-410	1473
12	UNIV CALIF-BERKELEY	Young, R. S.	HQ-SB	Jukes, J. H.	NGR 05-003-460	1482
12	UNIV CALIF-L ANGELES	Zill, L. P.	ARC	Douglass, D. L.	NCA 2-390402	1546
12	UNIV CALIF-L ANGELES	Harris, J. W.	JSC	Wasson, J. T.	NGL 05-007-367	1560
12	UNIV CALIF-SAN DIEGO	Harris, J. W.	JSC	Arnold, J. R.	NGL 05-009-148	1613
12	UNIV CALIF-SAN DIEGO	Harris, J. W.	JSC	Marti, K.	NGL 05-009-150	1614
12	UNIV CALIF-SAN DIEGO	Young, R. S.	HQ-SB	Miller, S. L.	NGR 05-009-218	1627
12	UNIV OF CHICAGO	Harris, J. W.	JSC	Clayton, R. N.	NGL 14-001-169	2060
12	UNIV OF DENVER	Quattrone, P. D.	ARC	Ross, L. W.	NGR 06-004-125	1812
12	UNIV OF FLORIDA	Schell, J. T.	MSFC	Patterson, E. P.	NAS 8-20247	1917
12	UNIV OF HAWAII-MANOA	Young, R. S.	HQ-SB	Folsome, C. E.	NGR 12-001-109	2028
12	UNIV HOUSTON-HOUSTON	Young, R. S.	HQ-SB	Becker, R. S.	NGR 44-005-091	3466
12	UNIV ILLINOIS-URBANA	Young, R. S.	HQ-SB	Woese, C. R.	NSG 7044	2096
12	UNIV OF KENTUCKY	Gordon, S.	LERC	Conger, W. L.	NGR 18-001-086	2230
12	UNIV MARYLAND-COL PK	Zill, L. P.	ARC	Ponnamperuma, C. A.	NCA 2-420403	2309
12	UNIV MARYLAND-COL PK	Stief, L. J.	GSFC	Ponnamperuma, C. A.	NAS 5-20834	2301
12	UNIV MARYLAND-COL PK	Pellett, G. L.	LARC	Davis, D. D.	NSG 1031	2343

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
12	UNIV MARYLAND-COL PK	Young, R. S.	HQ-SB	Ponnamperuma, C. A.	NGR 21-002-317	2332
12	UNIV OF MIAMI	Young, R. S.	HQ-SB	Fox, S. W.	NGR 10-007-008	1942
12	UNIV MICH-ANN ARBOR	King, J., Jr.	HQ-SU	Cicerone, R. J.	NSG 7187	2603
12	UNIV MO-KANSAS CITY	Ginoza, H. S.	ARC	Millich, F.	NGR 26-001-018	2695
12	UNIV OF NEW MEXICO	Harris, J. W.	JSC	Keil, K.	NGL 32-004-063	2831
12	UNIV OF NEW MEXICO	Williams, T. S., Jr.	LARC	Keil, K.	NAS 1-11855	2814
12	UNIV OF PITTSBURGH	Baker, C. E.	LERC	Kaufman, F.	NGR 39-011-161	3284
12	UNIV OF PITTSBURGH	Fordyce, J. S.	LERC	Liu, C. C.	NSG 3002	3288
12	UNIV OF PITTSBURGH	O'Donnell, P. M.	LERC	Liv, C. C.	NSG 3010	3289
12	UNIV SAN FRANCISCO	Kourtides, D. A.	ARC	Hilado, C. J.	NSG 2039	1671
12	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Sweeney, M. A.	NCA 2-685502	1679
12	UNIV SO MISSISSIPPI	Johnston, N. J.	LARC	Thames, S. F.	NGR 25-005-005	2682
12	U TENNESSEE-MEMPHIS	Kaplan, H. L.	JSC	Austian, J.	NAS 9-14918	3351
12	UNIV OF UTAH	Patterson, W. J.	MSFC	Andrade, J. D.	NAS 8-30253	3561
12	UNIV OF VERMONT	Young, R. S.	HQ-SB	Thanassi, J. W.	NSG 7021	3579
12	UNIV WISC-MADISON	Holton, E. M.	ARC	Deluca, H. F.	NAS 2-8752	3773
12	UTAH STATE UNIV	King, J., Jr.	HQ-SU	Moore, W. M.	NSG 7206	3577
12	VIRGINIA COMNWLTH U	Bell, V. L., Jr.	LARC	Stump, B. L.	NGR 47-002-041	3687
12	VIRGINIA POLY INST	Johnston, N. J.	LARC	Wolfe, J. F.	NSG 1064	3708
12	VIRGINIA POLY INST	Young, P. R.	LARC	Mason, J. G.	NSG 1085	3710
12	VIRGINIA POLY INST	Progar, D. J.	LARC	Wightman, J. P.	NSG 1124	3715
12	VIRGINIA POLY INST	Pellett, G. L.	LARC	Wightman, J. P.	NSG 1195	3717
12	VIRGINIA POLY INST	St Clair, T. L.	LARC	Ogliaruso, M. A.	NSG 1286	3728
12	WILBERFORCE UNIV	Hsu, L. C.	LERC	Stickney, P. B.	NSG 3067	3162
13	ALABAMA A&M UNIV	Kurtz, R. L.	MSFC	Lee, C. T.	NSG 8011	1005
13	ALABAMA A&M UNIV	Gross, K. W.	MSFC	Saha, H.	NSG 8022	1007
13	ALABAMA A&M UNIV	Bannister, T. C.	MSFC	Lal, R. B.	NSG 8033	1008
13	ALABAMA A&M UNIV	Jeffreys, H. B.	MSFC	Murty, S. S.	NSG 8037	1009
13	ARIZONA STATE UNIV	Morris, J. F.	LERC	Jacobson, D. L.	NSG 7019	1097
13	ATHENS COLLEGE	Jex, D. W.	MSFC	McNutt, R. C.	NAS 8-28058	1011
13	ATHENS COLLEGE	Zwiener, J. M.	MSFC	McNutt, R. C.	NAS 8-30561	1012
13	ATHENS COLLEGE	Moore, W. W., Jr.	MSFC	Martin, A. M., III	NAS 8-30880	1013
13	BALL STATE UNIVERSTY	Hastings, L. J.	MSFC	Cosby, R. M.	NCA 8-101	2098
13	BALL STATE UNIVERSTY	Hastings, L. J.	MSFC	Cosby, R. M.	NCA 8-103	2099
13	BOSTON COLLEGE	Cauffman, D. P.	HQ-ST	Eather, R. H.	NSG 7190	2372
13	BOWIE STATE COLLEGE	Caruso, A. J.	GSFC	Bhatia, M. S.	NGR 21-027-010	2270
13	BRIGHAM YOUNG UNIV	Hall, C. F.	ARC	Jones, D. E.	NAS 2-7358	3551
13	BRIGHAM YOUNG UNIV	Dyal, P.	ARC	Jones, D. E.	NGR 45-001-040	3555
13	BRIGHAM YOUNG UNIV	Roth, J. R.	LERC	Gardner, A. L.	NSG 3068	3556
13	BROOKLYN COLLEGE	Wilson, J. W.	LARC	Franco, V.	NSG 1166	2846
13	BROWN UNIVERSITY	Walker, G. H.	LARC	Loferski, J. J.	NGR 40-002-093	3296
13	BRYN MAWR COLLEGE	Harris, J. W.	JSC	Crawford, M. L.	NSG 9005	3196
13	CALIF INST OF TECH	Davis, M. A.	GSFC	Stone, E. C.	NAS 5-11066	1189
13	CALIF INST OF TECH	Gallagher, W. F.	GSFC	Stone, L. C.	NAS 5-20721	1191
13	CALIF INST OF TECH	Harris, J. W.	JSC	Epstein, S.	NGL 05-002-190	1210
13	CALIF INST OF TECH	Harris, J. W.	JSC	Albee, A. L.	NGL 05-002-338	1213
13	CALIF INST OF TECH	Harris, J. W.	JSC	Tombrello, T. A.	NGR 05-002-333	1229
13	CALIF INST OF TECH	Timothy, A. F.	HQ-ST	Zirin, H.	NGR 05-002-345	1231
13	CARNEGIE-MELLON UNIV	Walker, G. H.	LARC	Feucht, D. L.	NGR 39-087-021	3199
13	CASE WESTERN RESERVE	McAvoy, N.	GSFC	Pao, Y. H.	NGR 36-027-068	3087
13	CATHOLIC UNIVERSITY	Dennis, B. R.	GSFC	Werntz, C.	NSG 5066	1841
13	CATHOLIC UNIVERSITY	Reinhardt, V. S.	GSFC	Major, F. G.	NSG 5107	1842
13	CATHOLIC UNIVERSITY	McAvoy, N.	GSFC	Lally, J.	NSG 5111	1843
13	CATHOLIC UNIVERSITY	Taylor, W. W.	HQ-ST	Whang, Y. C.	NGR 09-005-063	1837
13	CITY COLLEGE OF N Y	Byrns, Z. H.	JSC	Pierson, W. J.	NAS 9-13642	2849
13	CITY COLLEGE OF N Y	Thom, K.	HQ-NS	Tchen, C. M.	NGL 33-013-034	2851
13	COLLEGE OF WM & MARY	Breckenridge, R. A.	LARC	Moriarity, J. A.	NSG 1089	3586
13	COLORADO STATE UNIV	Zill, L. P.	ARC	She, C. Y.	NCA 2-165503	1735

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
13	COLORADO STATE UNIV	Zill, L. P.	ARC	Sandborn, V. A.	NCA 2-165604	1737
13	COLORADO STATE UNIV	Harris, J. W.	JSC	Patton, C. E.	NSG 9037	1757
13	COLORADO STATE UNIV	Brown, G. V.	LERC	Etters, R. D.	NGR 06-002-159	1746
13	COLORADO STATE UNIV	Chubb, D. L.	LERC	Collins, G. J.	NSG 3060	1752
13	COLORADO STATE UNIV	Theman, E. R.	LERC	Kaufman, H. R.	NSG 3086	1753
13	COLUMBIA UNIVERSITY	Harris, J. W.	JSC	Horai, K.	NGR 33-008-177	2878
13	CORNELL UNIVERSITY	Findlay, J. A.	GSFC	Walker, J. C.	NAS 5-20705	2902
13	CORNELL UNIVERSITY	Conrath, B. J.	GSFC	Gierasch, P. J.	NAS 5-23236	2904
13	CORNELL UNIVERSITY	Harris, J. W.	JSC	Gold, T.	NGR 33-010-137	2915
13	CORNELL UNIVERSITY	Allario, F.	LARC	Cool, T. A.	NGL 33-010-064	2908
13	CORNELL UNIVERSITY	Jobson, D. J.	LARC	Harwit, M. O.	NSG 1263	2926
13	CORNELL UNIVERSITY	Brown, G. V.	LERC	Krumhansl, J. A.	NGR 33-010-188	2922
13	CORNELL UNIVERSITY	Taylor, W. W.	HQ-ST	Farley, D. T.	NGR 33-010-161	2918
13	CORNELL UNIVERSITY	Schmerling, E. R.	HQ-ST	Walker, J. C.	NSG 7104	2932
13	CORNELL UNIVERSITY	Schmerling, E. R.	HQ-ST	Auer, P. L.	NSG 7135	2934
13	DARTMOUTH COLLEGE	Schmerling, E. R.	HQ-ST	Morgan, M. G.	NGR 30-001-041	2733
13	DELAWARE STATE COL	Aiken, A. C.	GSFC	Helmy, E. M.	NGR 08-002-005	1829
13	DREXEL UNIVERSITY	Nelson, E. D.	GSFC	House, F. B.	NAS 5-22946	3205
13	FAIRLEIGH-DICKNSON U	Harris, J. W.	JSC	Adams, J. B.	NGL 31-006-011	2746
13	FEDERAL CITY COLLEGE	McDonald, F. B.	GSFC	Whiteside, H.	NGR 09-050-001	1847
13	FISK UNIVERSITY	Kroes, R. L.	MSFC	Silberman, E.	NGR 43-021-002	3317
13	FISK UNIVERSITY	Parnell, T. A.	MSFC	Neugebauer, G.	NSG 8007	3318
13	FLORIDA A&M UNIV	Trajmar, S.	JPL	Jones, H. W.	NSG 901	1900
13	FLORIDA INST OF TECH	Langel, R. A.	GSFC	Jin, R. S.	NSG 5038	1905
13	FLORIDA STATE UNIV	Hardin, J. C.	LARC	Tam, C. K.	NSG 1021	1910
13	GEORGIA INST OF TECH	Posey, J. W.	LARC	Hadden, W. J., Jr.	NSG 1047	1986
13	GEORGIA INST OF TECH	Preisser, J. S.	LARC	Pierce, A. D.	NSG 1307	1989
13	GEORGIA INST OF TECH	Huff, R. G.	LERC	Strahle, W. C.	NSG 3015	1991
13	GEORGIA INST OF TECH	Kerr, J. H.	MSFC	Callen, W. R.	NAS 8-30246	1969
13	GEORGIA INST OF TECH	Kerr, J. H.	MSFC	Callen, W. R.	NAS 8-31193	1975
13	GEORGIA INST OF TECH	Smith, H.	MSFC	Walsh, J. R.	NAS 8-31344	1976
13	GEORGIA INST OF TECH	Thom, K.	HQ-RR	Williams, R. J.	NSG 7067	1997
13	GRAMBLING STATE UNIV	Kroes, R. L.	MSFC	Murty, A. N.	NGR 19-011-016	2240
13	GRAMBLING STATE UNIV	Chappell, C. R.	MSFC	Cummings, W. D.	NSG 8034	2241
13	GRAMBLING STATE UNIV	Cauffman, D. P.	HQ-ST	Cummings, W. D.	NGR 19-011-007	2238
13	HAMPTON INSTITUTE	Singh, J. J.	LARC	Han, K. S.	NGR 47-020-008	3596
13	HARVARD UNIVERSITY	McAvoy, N.	GSFC	Bloembergen, N.	NGL 22-007-117	2393
13	HARVARD UNIVERSITY	Snoddy, W. C.	MSFC	Vaiana, G. S.	NAS 8-31374	2388
13	HARVARD UNIVERSITY	Bordelon, C. S.	MSFC	Noyes, R. W.	NAS 8-31549	2389
13	HARVARD UNIVERSITY	Timothy, A. F.	HQ-ST	Parkinson, W. H.	NGL 22-007-006	2391
13	HARVARD UNIVERSITY	Timothy, A. F.	HQ-ST	Reeves, E. M.	NSG 7175	2411
13	HOWARD UNIVERSITY	Yin, L. I.	GSFC	Tsang, T.	NGR 09-011-057	1883
13	HOWARD UNIVERSITY	Schafer, C. F.	MSFC	Ukanwa, A. O.	NAS 8-30252	1876
13	ILL INST OF TECH	Thom, K.	HQ-RR	Weinstein, H.	NSG 7039	2037
13	IOWA STATE UNIV	Zill, L. P.	ARC	Levenson, L. L.	NCA 2-340603	2159
13	IOWA STATE UNIV	Zill, L. P.	ARC	Anderson, D. A.	NCA 2-340604	2160
13	JOHNS HOPKINS UNIV	Taylor, W. W.	HQ-ST	Krimigis, S. M.	NSG 7055	2292
13	LEHIGH UNIVERSITY	Harris, J. W.	JSC	Sclar, C. B.	NGR 39-007-064	3221
13	LA STATE U-BAT ROUGE	Ormes, J. F.	GSFC	Huggett, R. W.	NAS 5-20883	2242
13	LA STATE U-BAT ROUGE	Hamby, H. G.	MSFC	Farmer, R. C.	NAS 8-30380	2243
13	MASS INST OF TECH	Davis, M. A.	GSFC	Bridge, H. S.	NAS 5-11062	2423
13	MASS INST OF TECH	McElroy, J. H.	GSFC	Javan, A.	NGR 22-009-741	2478
13	MASS INST OF TECH	Harris, J. W.	JSC	Simmons, M. G.	NGR 22-009-540	2465
13	MASS INST OF TECH	Weinberg, I.	LERC	Gatos, H. C.	NSG 3017	2505
13	MASS INST OF TECH	Reinmann, J. J.	LERC	Lax, B.	NSG 3088	2512
13	MASS INST OF TECH	Decker, R.	MSFC	Boyd, P.	NAS 8-30301	2433
13	MASS INST OF TECH	Dalins, I.	MSFC	Gatos, H. C.	NGL 22-009-125	2449
13	MASS INST OF TECH	Hall, H.	HQ-MT	Chapman, P. K.	NGR 22-009-735	2477

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
13	MASS INST OF TECH	Opp, A. G.	HQ-SA	Clark, G. W.	NGR 22-009-785	2482
13	MASS INST OF TECH	Schmerling, E. R.	HQ-ST	Bridge, H. S.	NGL 22-009-015	2445
13	MICHIGAN STATE UNIV	Unavailable	LARC	Unavailable	NAS 1-6860	2543
13	MISSISSIPPI STATE U	Hollis, B. R., Jr.	MSFC	Gassaway, J. D.	NAS 8-26749	2659
13	MOREHOUSE COLLEGE	Shriver, E. L.	MSFC	Spight, C.	NSG 8014	2004
13	MOREHOUSE COLLEGE	Stone, N. H.	MSFC	Turner, J. M.	NSG 8020	2005
13	MOREHOUSE COLLEGE	Williams, J. R.	MSFC	Spight, C.	NSG 8039	2007
13	NEW MEX ST U-LAS CR	Salzman, J. A.	LERC	Armstrong, R. L.	NSG 3069	2812
13	NEW YORK UNIVERSITY	Schneck, P. B.	GSFC	Schwartz, J. T.	NSG 5032	2953
13	NEW YORK UNIVERSITY	Rosendahl, J. D.	HQ-SA	Glassgold, A. E.	NGR 33-016-196	2946
13	NO CAR A&T STATE U	Allario, F.	LARC	Yu, C.	NSG 1147	3054
13	N CAR CENTRAL UNIV	McAvoy, N.	GSFC	Dutta, J. M.	NSG 5120	3056
13	NO CAROLINA STATE U	Hohl, F.	LARC	Hassan, H. A.	NSG 1058	3064
13	NO CAROLINA STATE U	Miller, W. E.	LARC	Littlejohn, M. A.	NSG 1202	3069
13	NO CAROLINA STATE U	Mayes, W. H.	LARC	Hart, F. D.	NSG 1205	3070
13	NO CAROLINA STATE U	Thom, K.	HQ-RR	Bennett, W. H.	NGL 34-002-017	3059
13	NORTHWESTERN UNIV	Lad, R. A.	LERC	Waber, J. T.	NGL 14-007-081	2042
13	NORTHWESTERN UNIV	Behrendt, D. R.	LERC	Waber, J. T.	NGR 14-007-131	2045
13	OHIO UNIVERSITY	Bonavito, N.	GSFC	Tanuka, T.	NAS 5-20885	3132
13	OLD DOMINION UNIV	Hillard, M. E., Jr.	LARC	Bandy, A. R.	NAS 1-13820	3606
13	OLD DOMINION UNIV	Outlaw, R. A.	LARC	Brock, F. J.	NGR 47-003-043	3612
13	OLD DOMINION UNIV	Phillips, D. H.	LARC	Ake, R. L.	NGR 47-003-048	3613
13	OLD DOMINION UNIV	Wilson, J. W.	LARC	Khandelwal, G. S.	NGR 47-003-078	3616
13	OLD DOMINION UNIV	Hohl, F.	LARC	Harries, W. L.	NSG 1022	3620
13	OLD DOMINION UNIV	Melfi, L. T., Jr.	LARC	Brock, F. J.	NSG 1271	3652
13	OREGON STATE UNIV	Harris, J. W.	JSC	Schmitt, R. A.	NGL 38-002-039	3183
13	PAINE COLLEGE	Bannister, T. C.	MSFC	Owais, M.	NSG 8002	2010
13	PENN STATE U-UNIV PK	Schmerling, E. R.	HQ-ST	Ross, W. J.	NGL 39-009-002	3236
13	PENN STATE U-UNIV PK	Schmerling, E. R.	HQ-ST	Nisbet, J. S.	NGL 39-009-003	3237
13	PENN STATE U-UNIV PK	Schmerling, E. R.	HQ-ST	Kendall, B. R.	NGL 39-009-032	3240
13	PENN STATE U-UNIV PK	Schmerling, E. R.	HQ-ST	Hale, L. C.	NGR 39-009-218	3245
13	POLY INST OF NY	Will, H. A.	LERC	Lederman, S.	NSG 3108	2968
13	POLY INST OF NY	Taylor, W. W.	HQ-ST	Gross, S. H.	NGR 33-006-047	2960
13	PRINCETON UNIVERSITY	Hunter, W. W., Jr.	LARC	Miles, R. B.	NSG 1070	2778
13	PRINCETON UNIVERSITY	Thom, K.	HQ-RR	Layton, J. P.	NGR 31-001-328	2777
13	PRINCETON UNIVERSITY	Strickland, A. T.	HQ-SL	Dicke, R. H.	NGR 31-001-202	2770
13	PURDUE UNIVERSITY	Harris, J. W.	JSC	Taylor, L. A.	NGL 15-005-175	2124
13	PURDUE UNIVERSITY	Harris, J. W.	JSC	Meyer, H. O.	NGR 15-005-157	2128
13	RENSSELAER POLY-NY	Reinmann, J. J.	LERC	Hickok, R. L., Jr.	NSG 3057	2984
13	RICE UNIVERSITY	Taylor, H. A., Jr.	GSFC	Cloutier, P. A.	NAS 5-23338	3383
13	RICE UNIVERSITY	Hudson, R. D.	JSC	Stebbings, R. F.	NGR 44-006-156	3394
13	RICE UNIVERSITY	Lad, R. A.	LERC	Rorschach, H. E.	NGL 44-006-001	3390
13	RICE UNIVERSITY	Roberts, W. T.	MSFC	Anderson, H. R., Jr.	NAS 8-31679	3385
13	RICE UNIVERSITY	Berge, L. H.	MSFC	Margrave, J. L.	NAS 8-32030	3386
13	RICE UNIVERSITY	Cauffman, D. P.	HQ-ST	Michel, F. C.	NGL 44-006-012	3391
13	RICE UNIVERSITY	Cauffman, D. P.	HQ-ST	Dessler, A. J.	NGR 44-006-137	3393
13	RUTGERS UNIV-NEWARK	Beach, H. L., Jr.	LARC	Johnson, J. A., III	NSG 1314	2793
13	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Plachy, W. Z.	NCA 2-660505	1281
13	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Anderson, D.	NCA 2-675514	1303
13	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Tucker, A. B.	NCA 2-675602	1309
13	SO CAROLINA ST COL	Urban, E. W.	MSFC	Payne, J. E.	NSG 8021	3308
13	SO UNIV-BATON ROUGE	Trenkle, J. J.	MSFC	Scott, R. L., Jr.	NSG 8016	2254
13	STANFORD UNIVERSITY	Zill, L. P.	ARC	Kline, S. J.	NCA 2-745602	1371
13	STANFORD UNIVERSITY	Hickey, D. H.	ARC	Karamcheti, K.	NGR 05-020-676	1411
13	STANFORD UNIVERSITY	Billman, K. W.	ARC	Bershader, D.	NSG 2035	1421
13	STANFORD UNIVERSITY	Billman, K. W.	ARC	Mitchner, M.	NSG 2050	1423
13	STANFORD UNIVERSITY	Davis, M. A.	GSFC	Helliwell, R. A.	NAS 5-20871	1341
13	STANFORD UNIVERSITY	Hutchby, J. A.	LARC	Pearson, G. L.	NSG 1201	1417

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
13	STANFORD UNIVERSITY	Bass, B. G.	MSFC	Walker, A. B., Jr.	NAS 8-31571	1346
13	STANFORD UNIVERSITY	Roberts, W. T.	MSFC	Da Rosa, A. V.	NAS 8-31769	1347
13	STANFORD UNIVERSITY	Potter, R. A.	MSFC	Fairbank, W. M.	NGR 05-020-019	1395
13	STANFORD UNIVERSITY	Thom, K.	HQ-RR	Pantell, R. H.	NSG 7110	1440
13	STANFORD UNIVERSITY	Weinberg, I.	HQ-RW	Little, W. A.	NGL 05-020-242	1386
13	STANFORD UNIVERSITY	Schmerling, E. R.	HQ-ST	Helliwell, R. A.	NGL 05-020-008	1381
13	STANFORD UNIVERSITY	Cauffman, D. P.	HQ-ST	Crawford, F. W.	NGL 05-020-176	1385
13	STANFORD UNIVERSITY	Timothy, A. F.	HQ-ST	Sturrock, P. A.	NGL 05-020-272	1388
13	STANFORD UNIVERSITY	Berko, F. W.	HQ-ST	Da Rosa, A. V.	NGR 05-020-00[illegible]	1393
13	STATE UNIV NY-ALBANY	Gary, G. A.	MSFC	Weinberg, J. L.	NAS 8-30251	2989
13	STATE UNIV NY-BUFFAL	Morris, J. F.	LERC	Shaw, D. T.	NSG 7071	3003
13	STATE U NY-STONY BRK	Boese, R. W.	ARC	Lutz, B. L.	NCA 2-760601	3006
13	STATE U NY-STONY BRK	Mangus, J. D.	GSFC	Stroke, G. W.	NGR 33-015-196	3017
13	STATE U NY-STONY BRK	Harris, J. W.	JSC	Bence, A. E.	NGL 33-015-130	3008
13	STATE U NY-STONY BRK	Harris, J. W.	JSC	Papike, J. J.	NSG 9044	3026
13	TALLADEGA COLLEGE	Dalins, I.	MSFC	Breecher, J.	NGR 01-007-009	1034
13	TEXAS A&M UNIVERSITY	Hatcher, N. W.	JSC	Newton, R. W.	NAS 9-14817	3426
13	TULANE UNIVERSITY	Gangler, J. J.	HQ-RW	Hermann, A. M.	NGL 19-002-027	2261
13	TUSKEGEE INSTITUTE	Philpott, D. E.	ARC	Sapp, W. J.	NCA 2-810601	1036
13	UNIV HOUSTON-CL LAKE	Harris, J. W.	JSC	Blanford, G. E.	NSG 9043	3476
13	UNION COLLEGE	McAvoy, N.	GSFC	Galantowicz, A.	NGR 33-032-004	3034
13	UNIV OF AKRON	Golub, M. A.	ARC	Gent, A. N.	NSG 2061	3134
13	UNIV ALA-HUNTSVILLE	Parnell, T. A.	MSFC	Gregory, J. C.	NAS 8-24953	1042
13	UNIV ALA-HUNTSVILLE	Hagyard, M. J.	MSFC	Wu, S. T.	NAS 8-28097	1044
13	UNIV ALA-HUNTSVILLE	Swenson, G. R.	MSFC	Wu, S. T.	NAS 8-29543	1048
13	UNIV ALA-HUNTSVILLE	Chappell, C. R.	MSFC	Smalley, L. L.	NAS 8-30563	1050
13	UNIV ALA-HUNTSVILLE	Parnell, T. A.	MSFC	Gregory, J. C.	NAS 8-31170	1055
13	UNIV ALA-HUNTSVILLE	Teuber, D. L.	MSFC	Knezovich, F. M.	NAS 8-31194	1058
13	UNIV ALA-HUNTSVILLE	Bowden, D. R.	MSFC	Christiensen, D.	NAS 8-31293	1059
13	UNIV ALA-HUNTSVILLE	Vaughan, O. H.	MSFC	Hung, R. J.	NAS 8-31729	1062
13	UNIV ALA-HUNTSVILLE	Fishman, G. J.	MSFC	Gregory, J. C.	NAS 8-31895	1064
13	UNIV ALA-TUSCALOOSA	Bannister, T. C.	MSFC	Miyagawa, I.	NAS 8-28098	1071
13	UNIV ALA-TUSCALOOSA	Schafer, C. F.	MSFC	De Smet, D. J.	NAS 8-29494	1073
13	UNIV ALA-TUSCALOOSA	Moore, W. W., Jr.	MSFC	Liu, H. K.	NAS 8-30479	1076
13	UNIV ALA-TUSCALOOSA	Bensko, J.	MSFC	Hughes, T.	NAS 8-31979	1080
13	UNIV ALASKA-FAIRBNKS	Schmerling, E. R.	HQ-ST	Davis, T. N.	NGR 02-001-087	1090
13	UNIV ALASKA-FAIRBNKS	Schmerling, E. R.	HQ-ST	Akasofu, S. I.	NSG 7051	1092
13	UNIV OF ARIZONA	Hall, C. F.	ARC	Sonett, C. P.	NAS 2-7839	1103
13	UNIV OF ARIZONA	Zill, L. P.	ARC	Caroff, L. J.	NCA 2-40601	1118
13	UNIV OF ARIZONA	McAvoy, N.	GSFC	Lamb, W. E., Jr.	NSG 5022	1153
13	UNIV OF ARIZONA	Kurtz, R. L.	MSFC	Jacobs, S. F.	NAS 8-28661	1107
13	UNIV OF ARIZONA	Allen, R. E.	MSFC	Bier, M.	NAS 8-29566	1108
13	UNIV OF ARIZONA	Cauffman, D. P.	HQ-ST	Hsieh, K. C.	NGR 03-002-107	1138
13	UNIV OF ARIZONA	Cauffman, D. P.	HQ-ST	Sonett, C. P.	NSG 7024	1160
13	UNIV OF ARIZONA	Timothy, A. F.	HQ-ST	Levy, E. H.	NSG 7168	1168
13	U ARKANSAS-MONTICELO	Hardee, S. N.	JSC	Dehon, R. A.	NAS 9-13196	1182
13	UNIV CALIF-BERKELEY	Billman, K. W.	ARC	Gustafson, T. K.	NSG 2151	1501
13	UNIV CALIF-BERKELEY	Davis, M. A.	GSFC	Anderson, K. A.	NAS 5-20079	1442
13	UNIV CALIF-BERKELEY	Davis, M. A.	GSFC	Mozer, F. S.	NAS 5-20080	1443
13	UNIV CALIF-BERKELEY	Davis, M. A.	GSFC	Anderson, K. A.	NAS 5-20838	1444
13	UNIV CALIF-BERKELEY	Davis, M. A.	GSFC	Heckman, H.	NAS 5-20995	1446
13	UNIV CALIF-BERKELEY	Bissell, E. E., Jr.	GSFC	Moser, F. S.	NGR 05-003-239	1475
13	UNIV CALIF-BERKELEY	Harris, J. W.	JSC	Reynolds, J. H.	NGL 05-003-409	1472
13	UNIV CALIF-BERKELEY	Harris, J. W.	JSC	Burlingame, A. L.	NGR 05-003-435	1478
13	UNIV CALIF-BERKELEY	Ondrak, B. T.	MSFC	Price, P. B.	NAS 8-29603	1448
13	UNIV CALIF-L ANGELES	Poppa, H. R.	ARC	Douglass, D. L.	NSG 2115	1580
13	UNIV CALIF-L ANGELES	Davis, M. A.	GSFC	Russell, C. T.	NAS 5-20064	1539
13	UNIV CALIF-L ANGELES	Harris, J. W.	JSC	Warren, N.	NGL 05-007-330	1559

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
13	UNIV CALIF-L ANGELES	Harris, J. W.	JSC	Kaplan, I. R.	NGR 05-007-289	1564
13	UNIV CALIF-L ANGELES	Keating, G. M.	LARC	Knuth, E. L.	NGR 05-007-416	1575
13	UNIV CALIF-L ANGELES	Cauffman, D. P.	HQ-ST	Holzer, R. E.	NGR 05-007-276	1563
13	UNIV CALIF-L ANGELES	Timothy, A. F.	HQ-ST	Ulrich, R. K.	NSG 7158	1588
13	UNIV CALIF-RIVERSIDE	Temkin, A.	GSFC	Poe, R. T.	NGL 05-008-005	1592
13	UNIV CALIF-SAN DIEGO	Wales, R. O.	GSFC	McIlwain, C. E.	NAS 5-21055	1597
13	UNIV CALIF-SAN DIEGO	Shulman, A. R.	GSFC	Lee, S. H.	NGR 05-009-260	1632
13	UNIV CALIF-SAN DIEGO	Woollam, J. A.	LERC	Luo, H. L.	NSG 3103	1637
13	UNIV CALIF-SAN DIEGO	Chappell, C. R.	MSFC	McIlwain, C. E.	NAS 8-31145	1604
13	UNIV CALIF-SAN DIEGO	Roberts, W. T.	MSFC	Banks, P. M.	NAS 8-31839	1605
13	UNIV CALIF-SAN DIEGO	Opp, A. G.	HQ-SA	Peterson, L. E.	NGL 05-005-003	1606
13	UNIV CALIF-SAN DIEGO	Cauffman, D. P.	HQ-ST	McIlwain, C. E.	NGL 05-005-007	1608
13	UNIV CALIF-SAN DIEGO	Taylor, W. W.	HQ-ST	Banks, P. M.	NGR 05-009-075	1618
13	UNIV CALIF-SAN DIEGO	Cauffman, D. P.	HQ-ST	Fejer, J. A.	NGR 05-009-076	1619
13	UNIV CALIF-SAN DIEGO	Schmerling, E. R.	HQ-ST	Axford, W. I.	NGR 05-009-081	1620
13	UNIV CALIF-SAN DIEGO	Timothy, A. F.	HQ-ST	Hudson, H. S.	NSG 7100	1641
13	UNIV CALIF-SAN DIEGO	Timothy, A. F.	HQ-ST	Peterson, L. E.	NSG 7161	1644
13	UNIV OF CHICAGO	Davis, M. A.	GSFC	Simpson, J. A.	NAS 5-11067	2052
13	UNIV OF CHICAGO	Gallagher, W. F.	GSFC	Meyer, P.	NAS 5-20674	2053
13	UNIV OF CHICAGO	Harris, J. W.	JSC	Anders, E.	NGL 14-001-167	2059
13	UNIV OF CHICAGO	Harris, J. W.	JSC	Smith, J. V.	NGL 14-001-171	2061
13	UNIV OF CINCINNATI	Blue, J. W.	LERC	Jha, S.	NSG 3091	3146
13	UNIV COLORADO-BOLDR	Harris, J. W.	JSC	Larson, E. E.	NGR 06-003-181	1781
13	UNIV COLORADO-BOLDR	Bass, B. G.	MSFC	Dulk, G. A.	NAS 8-31378	1769
13	UNIV COLORADO-BOLDR	Mitchell, J. L.	HQ-SA	Speiser, T. W.	NGR 06-003-21[illegible]	1784
13	UNIV COLORADO-BOLDR	Timothy, A. F.	HQ-ST	Cooper, J.	NGL 06-003-05[illegible]	1774
13	UNIV COLORADO-BOLDR	Timothy, A. F.	HQ-ST	Bruner, E. C., Jr.	NSG 7130	1797
13	UNIV COLORADO-BOLDR	Timothy, A. F.	HQ-ST	Barth, C. A.	NSG 7165	1798
13	UNIV COLORADO-BOLDR	Timothy, A. F.	HQ-ST	Roberts, W. O.	NSG 7166	1799
13	UNIV OF DENVER	Munoz, R. M.	ARC	Murcray, D. G.	NAS 2-8200	1803
13	UNIV OF DENVER	Hobbs, R. W.	GSFC	Edrich, J.	NAS 5-23190	1805
13	UNIV OF DENVER	Calahan, H. D.	HQ-SA	Patel, V. L.	NGR 06-004-123	1811
13	UNIV OF DENVER	Schmerling, E. R.	HQ-ST	Patel, V. L.	NGR 06-004-058	1809
13	UNIV OF DENVER	Taylor, W. W.	HQ-ST	Roederer, J. G.	NGR 06-004-060	1810
13	UNIV OF FLORIDA	Thom, K.	HQ-RR	Schneider, R. T.	NGL 10-005-089	1923
13	UNIV OF GEORGIA	Clingman, J. H.	MSFC	Burkhard, D. G.	NAS 8-31565	2013
13	UNIV HOUSTON-HOUSTON	Zill, L. P.	ARC	Kiehn, R. M.	NCA 2-295602	3462
13	UNIV HOUSTON-HOUSTON	Bailey, J. V.	JSC	Pinsky, L. S.	NAS 9-14652	3455
13	UNIV HOUSTON-HOUSTON	Bailey, J. V.	JSC	Goodman, C.	NGL 44-005-041	3[illegible]63
13	UNIV HOUSTON-HOUSTON	Kondo, Y.	JSC	Hildebrandt, A. F.	NGR 44-005-137	3469
13	UNIV HOUSTON-HOUSTON	Hardin, J. C.	LARC	Kleis, S. J.	NSG 1277	3470
13	UNIV ILLINOIS-URBANA	Hohl, F.	LARC	Milev, G. H.	NSG 1063	2086
13	UNIV ILLINOIS-URBANA	Dunning, J. W., Jr.	LERC	Verdeyen, J. T.	NGR 14-005-200	2083
13	UNIV ILLINOIS-URBANA	Siewert, R. D.	LERC	Strehlow, R. A.	NSG 3008	2091
13	UNIV OF IOWA	Davis, M. A.	GSFC	Frank, L. A.	NAS 5-11064	2169
13	UNIV OF IOWA	Denwiddie, M.	GSFC	Gurnett, D. A.	NAS 5-11167	2170
13	UNIV OF IOWA	Eaker, H. L.	GSFC	Craven, J. D.	NAS 5-11265	2171
13	UNIV OF IOWA	Davis, M. A.	GSFC	Gurnett, D. A.	NAS 5-20093	2174
13	UNIV OF IOWA	Davis, M. A.	GSFC	Frank, L. A.	NAS 5-20094	2175
13	UNIV OF IOWA	Coffee, C. W., Jr.	LARC	Van Allen, J. A.	NAS 1-13129	2167
13	UNIV OF IOWA	Taylor, W. W.	HQ-ST	Van Allen, J. A.	NGL 16-001-002	2178
13	UNIV OF IOWA	Cauffman, D. P.	HQ-ST	Montgomery, D. C.	NGL 16-001-043	2179
13	UNIV OF KENTUCKY	Harris, J. W.	JSC	Ehmann, W. D.	NGR 18-001-058	2228
13	UNIV OF KENTUCKY	Haggard, J. B., Jr.	LERC	Hsu, N. N.	NGR 18-001-083	2229
13	UNIV MARYLAND-COL PK	Davis, M. A.	GSFC	Gloeckler, G.	NAS 5-11063	2299
13	UNIV MARYLAND-COL PK	Davis, M. A.	GSFC	Gloeckler, G.	NAS 5-20062	2300
13	UNIV MARYLAND-COL PK	Conrath, B. J.	GSFC	Ponnamperuma, C. A.	NAS 5-23237	2306
13	UNIV MARYLAND-COL PK	Ogilvie, K. W.	GSFC	Coplan, M. A.	NGR 21-002-291	2330

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
13	UNIV MARYLAND-COL PK	Teegarden, B. J.	GSFC	Gloeckler, G.	NGR 21-002-316	2331
13	UNIV MARYLAND-COL PK	Bufton, J. L.	GSFC	Currie, D. G.	NGR 21-002-444	2341
13	UNIV MARYLAND-COL PK	Simoneau, R. J.	LERC	Sengers, J. V.	NGR 21-002-344	2333
13	UNIV MARYLAND-COL PK	Coles, W. D.	LERC	Spain, I. L.	NGR 21-002-400	2338
13	UNIV MARYLAND-COL PK	Schwenk, F. C.	HQ-RR	Weber, J.	NSG 7196	2365
13	UNIV MARYLAND-COL PK	Brunk, W. E.	HQ-SL	Kundu, M. R.	NGR 21-002-199	2327
13	UNIV MD-EASTRN SHORE	Kim, H. H.	WFC	Singh, G.	NGR 21-119-003	2369
13	UNIV OF MASS-AMHERST	Harris, J. W.	JSC	Haggerty, S. E.	NGL 22-010-089	2539
13	UNIV MICH-ANN ARBOR	Lincoln, K. A.	ARC	Carignan, G. R.	NAS 2-8992	2551
13	UNIV MICH-ANN ARBOR	Davis, M. A.	GSFC	Haddock, F. T.	NAS 5-20839	2560
13	UNIV MICH-ANN ARBOR	Spencer, N. W.	GSFC	Carignan, G. R.	NAS 5-22441	2562
13	UNIV MICH-ANN ARBOR	Trainor, J. H.	GSFC	MacNee, A. B.	NAS 5-22875	2565
13	UNIV MICH-ANN ARBOR	Bissell, E. E., Jr.	GSFC	Sharp, W. E.	NGR 23-005-360	2580
13	UNIV MICH-ANN ARBOR	Jordan, S. D.	HQ-SA	Haddock, F. T.	NSG 7004	2601
13	UNIV MICH-ANN ARBOR	Schmerling, E. R.	HQ-ST	Samir, U.	NGR 23-005-320	2579
13	U MINN-MNPLS-ST PAUL	Staff, W. O.	GSFC	Epney, O.	NAS 5-3838	2618
13	U MINN-MNPLS-ST PAUL	Davis, M. A.	GSFC	Kellogg, P. J.	NAS 5-20837	2623
13	U MINN-MNPLS-ST PAUL	Bissell, E. E., Jr.	GSFC	Winckler, J. R.	NSG 5088	2642
13	U MINN-MNPLS-ST PAUL	Harris, J. W.	JSC	Alexander, E. C., Jr.	NGL 24-005-225	2630
13	U MINN-MNPLS-ST PAUL	Harris, J. W.	JSC	Murthy, V. R.	NGR 24-005-223	2634
13	U MINN-MNPLS-ST PAUL	Weigand, A. J.	LERC	Wehner, G. K.	NSG 3041	2640
13	U MINN-MNPLS-ST PAUL	Roberts, W. T.	MSFC	Winckler, J. R.	NAS 8-31510	2625
13	U MINN-MNPLS-ST PAUL	Cauffman, D. P.	HQ-ST	Winckler, J. R.	NGL 24-005-008	2627
13	U MINN-MNPLS-ST PAUL	Schmerling, E. R.	HQ-ST	Cahill, L. J., Jr.	NGR 24-005-253	2636
13	UNIV MO-ROLLA	Zill, L. P.	ARC	Levenson, L. L.	NCA 2-450602	2700
13	UNIV MO-ROLLA	Smith, R. E.	MSFC	Stampfer, J. F., Jr.	NAS 8-31538	2696
13	UNIV NEBRASKA-LINCLN	Kalet, M. W.	GSFC	Samson, J. R.	NAS 5-22903	2722
13	UNIV NEBRASKA-LINCLN	Kalet, M. W.	GSFC	Samson, J. A.	NAS 5-23125	2723
13	UNIV NEW HAMP-DURHAM	Orwig, L. E.	GSFC	Chupp, E. L.	NAS 5-20884	2738
13	UNIV NEW HAMP-DURHAM	Hunter, W. R.	HQ-ST	Chupp, E. L.	NGL 30-002-018	2740
13	UNIV NEW HAMP-DURHAM	Schmerling, E. R.	HQ-ST	Arnoldy, R. L.	NGR 30-002-054	2743
13	UNIV NEW HAMP-DURHAM	Timothy, A. F.	HQ-ST	Chupp, E. L.	NGR 30-002-104	2744
13	UNIV OF NEW MEXICO	Temkin, A.	GSFC	Beckel, C. L.	NCA 5-41	2825
13	UNIV OF NEW MEXICO	Calahan, H. D.	HQ-SA	Ahluwalia, H. S.	NGR 32-004-086	2836
13	UNIV N CAR-CHPL HILL	Parnell, T. A.	MSFC	Childs, C. B.	NAS 8-26601	3074
13	UNIV OF NOTRE DAME	Cochran, T. H.	LERC	Kanury, M.	NAS 3-20087	2143
13	UNIV OREGON-EUGENE	Caroff, L. [illegible]	ARC	Kemp, J.	NCA 2-587601	3187
13	UNIV OREGON-EUGENE	Whiting, E. E.	ARC	Crasemann, B.	NGR 38-003-036	3191
13	UNIV OREGON-EUGENE	Harris, J. W.	JSC	Weill, D. F.	NGL 38-003-022	3188
13	UNIV OF PITTSBURGH	Temkin, A.	GSFC	Gerjuoy, E.	NGL 39-011-035	3279
13	UNIV OF PITTSBURGH	Eichelman, W. F.	JSC	Donahue, T. M.	NAS 9-13803	3273
13	UNIV OF PITTSBURGH	Harris, J. W.	JSC	Fuller, M.	NGL 39-011-160	3281
13	UNIV OF ROCHESTER	Osantowski, J. F.	GSFC	Baumeister, P. W.	NAS 5-20028	3035
13	UNIV SAN FRANCISCO	Taketa, S. T.	ARC	Benton, E. V.	NAS 2-7059	1664
13	UNIV SAN FRANCISCO	Riccitiello, S. R.	ARC	Hilado, C. J.	NSG 2164	1673
13	UNIV SAN FRANCISCO	Parnell, T. A.	MSFC	Benton, E. V.	NAS 8-26758	1665
13	UNIV OF SANTA CLARA	Dyal, P.	ARC	Parkin, C. W.	NSG 2075	1698
13	UNIV OF SANTA CLARA	Lomax, H.	ARC	Vinokur, M.	NSG 2086	1699
13	UNIV OF SO ALABAMA	Fordyce, J. S.	LERC	Weber, F. N., Jr.	NSG 3003	1082
13	UNIV OF SOUTHERN CAL	Bissell, E. E., Jr.	GSFC	Judge, D. L.	NSG 5108	1719
13	UNIV OF SOUTHERN CAL	Unavailable	JSC	Unavailable	NAS 9-6164	1708
13	UNIV OF SOUTHERN CAL	Ruff, R. C.	MSFC	Wilcox, W. R.	NAS 8-29847	1707
13	UNIV OF SOUTHERN CAL	Calahan, H. D.	HQ-SA	Intriligator, D. S.	NGR 05-018-185	1716
13	UNIV OF SOUTHERN CAL	Cauffman, D. P.	HQ-ST	Vasyliunas, V. M.	NGR 05-018-181	1715
13	UNIV SO MISSISSIPPI	Wood, G. M.	LARC	Rayborn, G. H.	NSG 1285	2683
13	UNIV SOUTHWESTERN LA	Chubb, D. L.	LERC	Matese, J. J.	NSG 3049	2265
13	UNIVERSITY OF SPLIT	Dannenberg, R. E.	ARC	Slapnicar, P. I.	NSG 7163	3827
13	UNIV TEXAS-AUSTIN	Eichelman, W. F.	JSC	Latham, G. V.	NAS 9-14810	3489

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
13	UNIV TEXAS-DALLAS	Bissell, E. E., Jr.	GSFC	Heikkila, W. J.	NGR 44-004-124	3533
13	UNIV TEXAS-DALLAS	Berko, F. W.	HQ-SA	Hoffman, J. H.	NSR 44-004-089	3542
13	UNIV TEXAS-DALLAS	Cauffman, D. P.	HQ-ST	Heikkila, W. J.	NGR 44-004-030	3531
13	UNIV TEXAS-DALLAS	Schmerling, E. R.	HQ-ST	Heikkila, W. J.	NSR 44-004-041	3541
13	UNIV OF TOLEDO	Connolley, D. J.	LERC	Rush, W. F.	NSG 3099	3157
13	UNIV OF TOLEDO	Hall, A. J., Jr.	MSFC	Delsemme, A. H.	NAS 8-31681	3152
13	UNIV OF WASHINGTON	Harris, J. W.	JSC	Ghose, S.	NGR 48-002-149	3754
13	UNIV OF WASHINGTON	Thom, K.	HQ-RR	Hertzberg, A.	NGL 48-002-044	3746
13	UNIV OF WASHINGTON	Schmerling, E. R.	HQ-ST	Parks, G. K.	NGR 48-002-154	3756
13	UNIV WISC-MADISON	Squires, R. K.	GSFC	Suomi, V. E.	NAS 5-20974	3776
13	UNIV WISC-MADISON	Cauffman, D. P.	HQ-ST	Scherb, F.	NGR 50-002-162	3793
13	UNIV OF WYOMING	Sofia, S.	HQ-SA	Tompkins, D. R., Jr.	NGR 51-001-035	3812
13	VANDERBILT UNIVERSTY	Hohl, F.	LARC	Lee, J. H.	NSG 1232	3354
13	VANDERBILT UNIVERSTY	Hohl, F.	LARC	Lee, J. H.	NSG 1235	3355
13	VANDERBILT UNIVERSTY	Nichols, R. L.	MSFC	Kinser, D. L.	NAS 8-30656	3352
13	VIRGINIA POLY INST	Posey, J. W.	LARC	Nayfeh, A. H.	NAS 1-13884	3691
13	VIRGINIA POLY INST	Smith, A.	LARC	Sanzone, G.	NSG 1020	3706
13	VIRGINIA POLY INST	Sentell, R. J.	LARC	Furr, A. K.	NSG 1119	3714
13	VIRGINIA STATE COL	Wilson, J. W.	LARC	Stronach, C. E.	NGR 47-014-006	3734
13	WASHINGTON UNIVERSTY	Harris, J. W.	JSC	Walker, R. M.	NGL 26-008-065	2711
13	WASHINGTON UNIVERSTY	Heyman, J. S.	LARC	Miller, J. G.	NSG 1016	2713
13	WASHINGTON UNIVERSTY	Schmerling, E. R.	HQ-ST	Abrahamshrauner, B.	NGL 26-008-057	2710
13	WAYNE STATE UNIV	Brandhorst, H. W., Jr.	LERC	Wang, E. Y.	NSG 3014	2610
13	WAYNE STATE UNIV	Brandhorst, H. W., Jr.	LERC	Wang, E. Y.	NSG 3081	2612
13	WICHITA STATE UNIV	Rice, E. J.	LERC	Eversman, W.	NGR 17-003-018	2216
13	WILLIAMS COLLEGE	Reinhardt, V. S.	GSFC	Crampton, S. B.	NAS 5-23520	2541
13	XAVIER UNIV-LA	Outlaw, R. A.	LARC	Ioup, J. W.	NSG 1218	2267
19	ALFRED UNIVERSITY	Taylor, K. R.	MSFC	Lacourse, W. C.	NAS 8-31711	2843
19	CALIF INST OF TECH	Harris, J. W.	JSC	Ahrens, T. J.	NSG 9019	1247
19	CALIF INST OF TECH	Dwornik, S. E.	HQ-SL	Albee, A. L.	NSG 7125	1239
19	CASE WESTERN RESERVE	Nichols, L. D.	LERC	Reshotko, E.	NGL 36-003-064	3081
19	CLARKSON COL OF TECH	Tatler, K. R.	MSFC	Cole, R.	NAS 8-31708	2859
19	CLARKSON COL OF TECH	Taylor, K. R.	MSFC	Wilcox, W. R.	NAS 8-31709	2860
19	COLORADO STATE UNIV	Domitz, S.	LERC	Kaufman, H. R.	NSG 3038	1751
19	COLUMBIA UNIVERSITY	Smith, D. E.	GSFC	Scholz, C. H.	NGR 33-008-146	2876
19	COLUMBIA UNIVERSITY	Eichelman, W. F.	JSC	Langseth, M. G.	NAS 9-6037	2873
19	DC TEACHERS COLLEGE	Holland, A. C.	WFC	Curtis, W. C.	NGR 09-053-002	1844
19	DC TEACHERS COLLEGE	Holland, A. C.	WFC	Curtis, W. C.	NSG 6003	1846
19	GEORGIA INST OF TECH	Hohl, F.	LARC	Clement, J. D.	NSG 1288	1988
19	GEORGIA INST OF TECH	Bianca, C. J.	MSFC	Hanagud, S. V.	NAS 8-30617	1971
19	HAMPTON INSTITUTE	Kim, H. H.	WFC	Trehan, A. K.	NGR 47-020-006	3595
19	IOWA STATE UNIV	Zill, L. P.	ARC	Grossman, A. S.	NCA 2-340405	2149
19	LEHIGH UNIVERSITY	Taylor, K. R.	MSFC	Vander Hoff, J. W.	NAS 8-31706	3212
19	LEHIGH UNIVERSITY	Taylor, K. K.	MSFC	Micale, E. J.	NAS 8-31707	3213
19	MASS INST OF TECH	Ostaff, W. A.	GSFC	Clark, G. W.	NAS 5-11082	2424
19	MASS INST OF TECH	Staelin, D.	GSFC	Shive, J.	NAS 5-22485	2427
19	MASS INST OF TECH	Hacker, P. T.	LERC	Senturia, S. D.	NAS 3-17534	2422
19	MASS INST OF TECH	Gluyas, R. E.	LERC	Senturia, S. D.	NSG 3061	2508
19	MASS INST OF TECH	Adams, W. R.	MSFC	Gatos, H. C.	NAS 8-30576	2435
19	MORGAN STATE UNIV	Mundy, J. R.	GSFC	Proctor, N. K.	NGT 21-025-006	2295
19	NEW MEX INST MINING	Maran, S. P.	GSFC	Hume, W.	NCA 5-48	2798
19	NEW MEX ST U-LAS CR	Bissell, E. E., Jr.	GSFC	Sayles, A., Jr.	NAS 5-20681	2803
19	NEW MEX ST U-LAS CR	Schlimmer, G. E.	KSC	Unavailable	NAS10-8712	2808
19	OHIO STATE UNIV	Cassen, P. M.	ARC	Kulacki, F. A.	NGR 36-008-205	3124
19	OHIO STATE UNIV	Costes, N. C.	MSFC	Mueller, I. I.	NAS 8-31195	3116
19	OHIO STATE UNIV	Murphy, J. P.	HQ-ES	Mueller, I. I.	NGL 36-008-093	3119
19	OLD DOMINION UNIV	Kelsall, T. N.	GSFC	Becher, J.	NSG 5053	3660
19	OLD DOMINION UNIV	Hohl, F.	LARC	Harries, W. L.	NSG 1040	3623

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
19	OLD DOMINION UNIV	Wilson, J. W.	LARC	Khandelwal, G. S.	NSG 1055	3624
19	OLD DOMINION UNIV	Gapcynski, J. P.	LARC	Breedlove, W. J., Jr.	NSG 1152	3635
19	OLD DOMINION UNIV	Keating, G. M.	LARC	Goglia, G. L.	NSG 1207	3641
19	PENN STATE U-UNIV PK	Duke, J. R.	WFC	Hale, L. C.	NAS 6-2602	3231
19	PENN STATE U-UNIV PK	Ballance, C. W., Jr.	WFC	Hale, L. C.	NSG 6004	3258
19	PRINCETON UNIVERSITY	Williams, T. S., Jr.	LARC	Hargraves, R. B.	NAS 1-97[illegible]	2750
19	RENSSELAER POLY-NY	Wood, G. M.	LARC	White, F. A.	NSG 1052	2981
19	RENSSELAER POLY-NY	Adams, W. R.	MSFC	Wiedemeier, H.	NAS 8-28307	2972
19	RENSSELAER POLY-NY	Adams, W. R.	MSFC	Wiedemeier, H.	NAS 8-30578	2973
19	RENSSELAER POLY-NY	Snyder, R. S.	MSFC	MacCrone, R. K.	NAS 8-31705	2974
19	RENSSELAER POLY-NY	Pontious, C. E.	HQ-RE	Frederick, D. K.	NSG 7184	2986
19	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Maddock, M. E.	NCA 2-675414	1296
19	SO UNIV-BATON ROUGE	Kent, M. I.	MSFC	Liu, K. H.	NGR 19-005-003	2250
19	STANFORD UNIVERSITY	Erzberger, H.	ARC	Bryson, A. E.	NSG 2007	1419
19	STANFORD UNIVERSITY	Ostrow, H.	GSFC	MacOvski, A.	NAS 5-23522	1344
19	STANFORD UNIVERSITY	Cauffman, D. P.	HQ-ST	Croft, T. A.	NGR 05-020-407	1398
19	UNIV ALA-HUNTSVILLE	Adams, W. R.	MSFC	Walter, H. U.	NAS 8-28304	1046
19	UNIV ALA-HUNTSVILLE	Detko, G. J.	MSFC	Luttges, W. E.	NAS 8-31174	1057
19	UNIV ALASKA-FAIRBNKS	Roberts, W. T.	MSFC	Davis, T. N.	NAS 8-31801	1087
19	UNIV OF ARIZONA	Maran, S. P.	GSFC	Burke, J. J.	NCA 5-38	1124
19	UNIV OF ARIZONA	Maran, S. P.	GSFC	Epps, H. W.	NCA 5-39	1125
19	UNIV ARKANSAS-FAYETV	Potter, A. E.	JSC	Waite, W. P.	NAS 9-14251	1177
19	UNIV CALIF-BERKELEY	Roberts, W. T.	MSFC	Mozel, F. S.	NAS 8-31346	1449
19	UNIV CALIF-BERKELEY	Schmerling, E. R.	HQ-ST	Anderson, K. A.	NGL 05-003-017	1467
19	UNIV CALIF-L ANGELES	Hall, C. F.	ARC	Russell, C. T.	NAS 2-8808	1534
19	UNIV CALIF-L ANGELES	Adams, W. R.	MSFC	Yue, A. S.	NAS 8-28310	1542
19	UNIV CALIF-L ANGELES	Adams, W. R.	MSFC	Yue, A. S.	NAS 8-30579	1544
19	UNIV CALIF-L ANGELES	Taylor, K. R.	MSFC	Bunshah, R. F.	NAS 8-31710	1545
19	UNIV CALIF-L ANGELES	Taylor, W. W.	HQ-ST	Kennel, C. F.	NGL 05-007-190	1558
19	UNIV CALIF-SAN DIEGO	Berko, F. W.	GSFC	Baity, W. A.	NAS 5-11080	1595
19	UNIV CALIF-SAN DIEGO	Woollam, J. A.	LERC	Webb, G. W.	NSG 3055	1636
19	UNIV CALIF-SAN DIEGO	French, B. M.	HQ-SL	Suess, H. E.	NGL 05-009-005	1611
19	UNIV CALIF-S BARBARA	Harris, J. W.	JSC	Fuller, M. D.	NSG 9020	1661
19	UNIV COLORADO-BOLDR	Sinnott, D. B.	ARC	Stewart, A. I.	NAS 2-8816	1758
19	UNIV COLORADO-BOLDR	Bissell, E. E., Jr.	GSFC	Barth, C. A.	NSG 5103	1795
19	UNIV OF DENVER	Goldberg, R.	GSFC	Barcus, J. R.	NAS 5-22981	1804
19	UNIV OF FLORIDA	Taylor, K. R.	MSFC	Goldberg, E. P.	NSG 8031	1934
19	UNIV OF HAWAII-MANOA	Strickland, A. T.	HQ-SL	Berg, E.	NSG 7179	2032
19	UNIV HOUSTON-HOUSTON	Ballance, C. W., Jr.	WFC	Sheldon, W. R.	NSG 6008	3472
19	UNIV ILLINOIS-URBANA	Bufton, J. L.	GSFC	Gardner, C. S.	NSG 5049	2095
19	UNIV ILLINOIS-URBANA	Ballance, C. W., Jr.	WFC	Bowhill, S. A.	NGR 14-005-181	2080
19	UNIV MARYLAND-COL PK	Dennis, B. R.	GSFC	Rose, W.	NCA 5-6	2315
19	UNIV MARYLAND-COL PK	Crannel, C. J.	GSFC	Westerhaut, G.	NCA 5-7	2316
19	UNIV MARYLAND-COL PK	Smith, D. E.	GSFC	Currie, D. G.	NGR 21-002-390	2336
19	UNIV MARYLAND-COL PK	O'Keefe, J. A.	GSFC	Pai, S. I.	NSG 5083	2356
19	UNIV MARYLAND-COL PK	Wasilewski, P. J.	GSFC	Weidner, J. R.	NSG 5112	2359
19	UNIV MARYLAND-COL PK	Eichelman, W. F.	JSC	Weber, J.	NAS 9-5886	2308
19	UNIV MARYLAND-COL PK	Cauffman, D. P.	HQ-ST	Wu, C. S.	NGL 21-002-005	2319
19	UNIV MD-EASTRN SHORE	Fitzmaurice, M. W.	GSFC	Singh, G.	NGR 21-119-001	2367
19	UNIV OF MIAMI	Thekaekara, M. P.	GSFC	Hiser, H. W.	NAS 5-22417	1935
19	UNIV MICH-ANN ARBOR	Roberts, W. T.	MSFC	Nagy, A. F.	NAS 8-31397	2570
19	UNIV MICH-ANN ARBOR	Shriver, E. L.	MSFC	Carignan, G. R.	NAS 8-31987	2572
19	U MINN-MNPLS-ST PAUL	Morris, J. F.	LERC	Chanin, L. M.	NSG 3094	2641
19	U MINN-MNPLS-ST PAUL	Ballance, C. W., Jr.	WFC	Arnoldy, R. J.	NSG 6005	2643
19	U MINN-MNPLS-ST PAUL	Ballance, C. W., Jr.	WFC	Nier, A. O.	NSG 6009	2644
19	U MINN-MNPLS-ST PAUL	Taylor, W. W.	HQ-ST	Kellogg, P. J.	NSG 7108	2646
19	U MINN-MNPLS-ST PAUL	Cauffman, D. P.	HQ-ST	Cahill, L. J., Jr.	NSG 7237	2648
19	UNIV OF NEVADA-RENO	Smith, R. E.	MSFC	Telford, J. W.	NAS 8-31441	2731

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
19	UNIV OF NOTRE DAME	Kish, J. A.	LERC	Nahas, J. J.	NSG 3070	2147
19	UNIV OF PENNSYLVANIA	Taylor, K. R.	MSFC	Zemel, J. N.	NAS 8-31702	3265
19	UNIV OF PITTSBURGH	Taylor, K. R.	MSFC	Cassidy, W. A.	NAS 8-31703	3272
19	UNIV OF PITTSBURGH	Ballance, C. W., Jr.	WFC	Zipf, E. C., Jr.	NSG 6011	3290
19	UNIV TEXAS-AUSTIN	Strickland, A. T.	HQ-SL	Latham, G. V.	NSG 7159	3516
19	UNIV TEXAS-AUSTIN	Shirey, W. H.	HQ-SL	Shelus, P. J.	NSG 7162	3517
19	UNIV TEXAS-DALLAS	Eichelman, W. F.	JSC	Hoffman, J. H.	NAS 9-12074	3526
19	UNIV TEXAS-DALLAS	Chappell, C. R.	MSFC	Hanson, W. B.	NAS 8-31775	3525
19	UNIV TEXAS-DALLAS	Schmerling, E. R.	HQ-ST	Tinsley, B. A.	NGR 44-004-142	3535
19	UNIV OF TOLEDO	Fellows, R. F.	HQ-SL	Delsemme, A. H.	W-14168	3161
19	UNIV OF UTAH	Williams, T. S., Jr.	LARC	Shorthill, R. W.	NAS 1-12705	3557
19	UNIV OF WASHINGTON	Blanchard, M. B.	ARC	Hodge, P. W.	NSG 2131	3758
19	VIRGINIA POLY INST	Maahs, H. G.	LARC	Frair, K. L.	NSG 1275	3726
21	APPALACHIAN STATE U	Falls, L. W.	MSFC	Kitchens, H.	NAS 8-29286	3043
21	AUBURN UNIV-AUBURN	Cummings, R. E.	MSFC	Vachon, R. I.	NAS 8-30654	1021
21	AUBURN UNIV-AUBURN	Cook, L. J.	MSFC	Bell, L.	NCA 8-109	1027
21	BOWIE STATE COLLEGE	Fuchs, A. J.	GSFC	Srivastava, S.	NGR 21-027-004	2269
21	BOWIE STATE COLLEGE	Mundy, J. R.	GSFC	Kirksey, C. H.	NGT 21-027-012	2271
21	BROWN UNIVERSITY	Lynch, T. J.	GSFC	Cooper, D. B.	NSG 5036	3301
21	CAL POLY ST U-S LUIS	Maisel, M. D.	ARC	Grimes, J. E.	NCA 2-678601	1248
21	CASE WESTERN RESERVE	Neustadter, H. E.	LERC	Zacks, S.	NSG 3078	3097
21	COPPIN STATE COLLEGE	Muckel, G. A.	GSFC	Sommerfeldt, D. E.	NGR 21-122-001	2274
21	COPPIN STATE COLLEGE	Rosenzweig, M. B.	GSFC	Pinsky, S. S.	NSG 5052	2276
21	DREXEL UNIVERSITY	Zeleznik, F. J.	LERC	Rosen, G. H.	NSG 3090	3208
21	DUKE UNIVERSITY	Migneault, G. E.	LARC	Gerhart, S. L.	NSG 1267	3050
21	FEDERAL CITY COLLEGE	Fuchs, A. J.	GSFC	Bakshi, J. S.	NGR 09-050-020	1852
21	FEDERAL CITY COLLEGE	Lancaster, E. R.	GSFC	Johnson, E. S.	NSG 5003	1853
21	GEORGIA INST OF TECH	Leybold, H. A.	LARC	Hanagud, S. V.	NGR 11-002-169	1983
21	GEORGIA INST OF TECH	Huggins, C. T.	MSFC	Walsh, J. R.	NAS 8-30919	1974
21	IOWA STATE UNIV	Zill, L. P.	ARC	Herget, C. J.	NCA 2-340502	2152
21	LEHIGH UNIVERSITY	Illg, W.	LARC	Erdogan, F.	NGR 39-007-011	3217
21	MARQUETTE UNIVERSITY	Hinton, D. E.	LARC	Nigro, N. J.	NSG 1025	3770
21	MARY BALDWIN COLLEGE	Campbell, J. W.	LARC	Sawyer, J. O.	NSG 1209	3601
21	MISSISSIPPI STATE U	Weilmuenster, K. J.	LARC	Thompson, J. F.	NSG 1242	2674
21	NEW YORK UNIVERSITY	South, J. C., Jr.	LARC	Garabedian, P. R.	NGR 33-016-167	2945
21	NORFOLK STATE COL	Shoosmith, J. N.	LARC	Boseman, M.	NSG 1014	3602
21	RICE UNIVERSITY	Baker, K.	JSC	Lynn, M. S.	NAS 9-12776	3388
21	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Shaw, S. J.	NCA 2-660502	1279
21	STANFORD UNIVERSITY	Zill, L. P.	ARC	Bredt, T. H.	NCA 2-745515	1363
21	STANFORD UNIVERSITY	Zill, L. P.	ARC	Petrosian, V.	NCA 2-745519	1367
21	STANFORD UNIVERSITY	Zill, L. P.	ARC	Oliger, J.	NCA 2-745520	1368
21	STANFORD UNIVERSITY	Zill, L. P.	ARC	Cerf, V.	NCA 2-745607	1376
21	STATE UNIV NY-BUFFAL	Van Vleck, E.	MSFC	Jain, A. K.	NAS 8-31434	2999
21	TEXAS A&M UNIVERSITY	Damon, E. P.	GSFC	Simmons, D. B.	NAS 5-22840	3407
21	TEXAS A&M UNIVERSITY	Broune, I. D.	JSC	Hartley, H. O.	NAS 9-13894	3418
21	TEXAS A&M UNIVERSITY	Nolin, F. D.	JSC	Guseman, L. F., Jr.	NAS 9-14556	3424
21	TEXAS A&M UNIVERSITY	Browne, I. D.	JSC	Guseman, L. F., Jr.	NAS 9-11689	3425
21	TEXAS A&M UNIVERSITY	Hay, D. H.	JSC	Guseman, L. F., Jr.	NAS 9-14904	3431
21	TEXAS A&M UNIVERSITY	Key, J. E.	MSFC	Strickland, J. A.	NAS 8-31332	3415
21	UNIV ALA-TUSCALOOSA	Digesu, F. E.	MSFC	Ainsworth, O. R.	NAS 8-30886	1078
21	UNIV CALIF-DAVIS	Zill, L. P.	ARC	Fong, C. Y.	NCA 2-180502	1517
21	UNIV CALIF-L ANGELES	Zill, L. P.	ARC	Carterette, E. C.	NCA 2-390501	1548
21	UNIV CALIF-L ANGELES	Zill, L. P.	ARC	Schmit, L. A.	NCA 2-390602	1552
21	UNIV HOUSTON-HOUSTON	Baker, K.	JSC	Decell, H. P., Jr.	NAS 9-12777	3448
21	UNIV HOUSTON-HOUSTON	Heyborn, R. P.	JSC	Decell, H. P., Jr.	NAS 9-15000	3457
21	UNIV ILLINOIS-URBANA	Slye, R. E.	ARC	Ray, R. M.	NGR 14-005-202	2084
21	UNIV MARYLAND-COL PK	Des Jardins, R.	GSFC	Basili, V. R.	NAS 5-22581	2303
21	UNIV MARYLAND-COL PK	Barsky, J.	GSFC	Agrawala, A. K.	NAS 5-22878	2305

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
21	UNIV MARYLAND-COL PK	Pontious, C. E.	HQ-RE	Minker, J.	NGR 21-002-270	2329
21	UNIV MARYLAND-COL PK	Thom, K.	HQ-RR	Tidman, D. A.	NGR 21-002-408	2339
21	UNIV MICH-ANN ARBOR	Straeter, T. A.	LARC	Holland, J. H.	NSG 1176	2591
21	UNIV OF SO FLORIDA	Park, S. K.	LARC	Tsokos, C. P.	NSG 1159	1949
21	UNIV TENNESSEE-KNOXV	Schaefer, D. H.	GSFC	Bodenheimer, R. E.	NSG 5002	3347
21	UNIV TENNESSEE-KNOXV	Smith, R. E.	LARC	Baker, A. J.	NSG 1261	3346
21	UNIV TEXAS-AUSTIN	Key, J. E.	MSFC	Dunham, R. B.	NAS 8-31566	3484
21	UNIV TEXAS-DALLAS	Baker, K.	JSC	Odell, P. L.	NAS 9-13512	3527
21	UNIV OF VIRGINIA	Barker, L. E.	LARC	Parrish, E. A., Jr.	NSG 1151	3680
21	UNIV WISC-MADISON	Campbell, J. W.	LARC	Johnson, R. A.	NSG 1196	3798
21	UTAH STATE UNIV	Zill, L. P.	ARC	Martin, C. F.	NCA 2-820501	3575
21	VIRGINIA POLY INST	Campbell, J. W.	LARC	Hinkelmann, K.	NSG 1071	3709
31	ALCORN STATE UNIV	Schmid, P. E.	GSFC	Paul, M. P.	NGR 25-012-001	2650
31	CALIF INST OF TECH	Kelsall, T. N.	GSFC	Neugebauer, G.	NAS 5-20492	1190
31	CALIF INST OF TECH	Nelson, D. W.	GSFC	Ingersoll, A. P.	NAS 5-22965	1194
31	CALIF INST OF TECH	Fellows, R. F.	HQ-SL	Murray, B. C.	NSG 7112	1238
31	CITY COLLEGE OF N Y	Halem, M.	GSFC	Spar, J.	NGR 33-013-086	2853
31	CITY COLLEGE OF N Y	Turner, R. E.	LARC	Chen, C. M.	NSG 1305	2855
31	CLARK COLLEGE	Reynolds, R. T.	ARC	Walker, G. H.	NSG 2143	1953
31	COLLEGE OF WM & MARY	Russell, J. M., III	LARC	Park, J. H.	NSG 1203	3588
31	COLORADO STATE UNIV	Theon, J. S.	GSFC	Reiter, E. R.	NGR 06-002-098	1740
31	COLORADO STATE UNIV	Curran, R. J.	GSFC	Vonder Haar, T. H.	NGR 06-002-102	1741
31	COLORADO STATE UNIV	Adler, R. F.	GSFC	Vonder Haar, T. H.	NSG 5011	1754
31	COLORADO STATE UNIV	Neil, E. A.	GSFC	Marlatt, W. E.	NSG 5073	1755
31	COLORADO STATE UNIV	Rados, R. M.	GSFC	Sinclair, P. C.	NSG 5105	1756
31	COLORADO STATE UNIV	Byrns, Z. H.	JSC	Marlatt, W. E.	NAS 9-14765	1733
31	COLORADO STATE UNIV	Sweet, G. E.	LARC	Vonder Haar, T. H.	NAS 1-12106	1721
31	COLORADO STATE UNIV	Costen, R. C.	LARC	Sinclair, P. C.	NSG 1215	1748
31	COLUMBIA UNIVERSITY	Worrall, W.	GSFC	Novick, R.	NAS 5-22408	2866
31	CORNELL UNIVERSITY	Fellows, R. F.	HQ-SL	Sagan, C. E.	NGL 33-010-082	2909
31	CORNELL UNIVERSITY	Fellows, R. F.	HQ-SL	Gierasch, P. J.	NGL 33-010-186	2911
31	CORNELL UNIVERSITY	Fellows, R. F.	HQ-SL	Elliot, J. L.	NSG 7243	2937
31	DREXEL UNIVERSITY	Sweet, G. E.	LARC	House, F. B.	NAS 1-11871	3203
31	DREXEL UNIVERSITY	Russell, J. M., III	LARC	House, F. B.	NAS 1-14393	3204
31	DREXEL UNIVERSITY	Hill, K.	MSFC	Kreitzberg, C. W.	NAS 8-31235	3206
31	DREXEL UNIVERSITY	Holland, A. C.	WFC	Brandy, A. R.	NSG 6007	3209
31	FAIRFIELD UNIVERSITY	Heath, D. F.	GSFC	McElaney, J. H.	NGR 07-010-002	1816
31	GEORGE WASHINGTON U	Callis, L. B., Jr.	LARC	Liebowitz, H.	NSG 1026	1864
31	GEORGE WASHINGTON U	Callis, L. B., Jr.	LARC	Liebowitz, H.	NSG 1216	1869
31	GEORGE WASHINGTON U	Costen, R. C.	LARC	Liebowitz, H.	NSG 1251	1872
31	GEORGIA INST OF TECH	Levine, D. M.	GSFC	Robertson, D. W.	NAS 5-20956	1965
31	GEORGIA INST OF TECH	King, J. L.	GSFC	Blue, M. D.	NSG 5082	1996
31	GEORGIA INST OF TECH	Lawrence, G. F.	LARC	Zimmer, R. P.	NAS 1-14351	1960
31	GEORGIA INST OF TECH	Fellows, R. F.	HQ-SL	Edwards, H. D.	NGL 11-002-004	1980
31	HARVARD UNIVERSITY	Poppoff, I. G.	ARC	McElroy, M. B.	NSG 2031	2406
31	HARVARD UNIVERSITY	Findlay, J. A.	GSFC	McElroy, M. B.	NAS 5-23199	2385
31	HARVARD UNIVERSITY	Donley, J. L.	GSFC	Reeves, E. M.	NAS 5-23494	2387
31	HARVARD UNIVERSITY	Theon, J. S.	GSFC	Lindzen, R. S.	NGR 22-007-275	2404
31	HARVARD UNIVERSITY	Williams, T. S., Jr.	LARC	McElroy, M. B.	NAS 1-10492	2379
31	HARVARD UNIVERSITY	Fellows, R. F.	HQ-SL	Goody, R. M.	NGL 22-007-228	2394
31	HARVARD UNIVERSITY	Fellows, R. F.	HQ-SL	Goody, R. M.	NGR 22-007-242	2397
31	HARVARD UNIVERSITY	Fellows, R. F.	HQ-SL	McElroy, M. B.	NGR 22-007-267	2400
31	HARVARD UNIVERSITY	Fellows, R. F.	HQ-SL	Pipkin, F. M.	NSG 7095	2410
31	IOWA STATE UNIV	Zill, L. P.	ARC	Grossman, A. S.	NCA 2-340504	2154
31	JOHNS HOPKINS UNIV	Corrigan, J. P.	GSFC	Doering, D. M.	NAS 5-11415	2278
31	JOHNS HOPKINS UNIV	Roberts, W. T.	MSFC	Feldman, P. D.	NAS 8-31413	2281
31	KANSAS STATE UNIV	Salomonson, V. V.	GSFC	Kanemasu, E. T.	NSG 5101	2185
31	KANSAS STATE UNIV	Barnett, T. L.	JSC	Kanemasu, E. T.	NAS 9-14899	2181

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
31	KANSAS STATE UNIV	Fellows, R. F.	HQ-SL	Williams, D.	NGL 17-001-026	2184
31	MASS INST OF TECH	Reynolds, R. T.	ARC	Prinn, R. G.	NSG 2010	2498
31	MASS INST OF TECH	Ratliff, R. B.	GSFC	Staelin, D. H.	NAS 5-21980	2426
31	MASS INST OF TECH	Heath, D. F.	GSFC	Cunnold, S.	NAS 5-22915	2428
31	MASS INST OF TECH	Halem, M.	GSFC	Stone, P. H.	NGR 22-009-727	2474
31	MASS INST OF TECH	Wexler, R.	GSFC	Austin, P. M.	NSG 5095	2516
31	MASS INST OF TECH	Hansen, J. E.	GSFC	Stone, P. H.	NSG 5113	2517
31	MASS INST OF TECH	Eichelman, W. F.	JSC	Toksoz, M. N.	NAS 9-12334	2440
31	MASS INST OF TECH	Fellows, R. F.	HQ-SL	Lewis, J. S.	NGL 22-009-521	2453
31	NEW YORK UNIVERSITY	Halem, M.	GSFC	Isaacson, E.	NGL 33-016-013	2942
31	NEW YORK UNIVERSITY	Stewart, R. W.	GSFC	Hoffert, M. I.	NSG 5033	2954
31	NEW YORK UNIVERSITY	Halem, M.	GSFC	Isaacson, E.	NSG 5034	2955
31	NEW YORK UNIVERSITY	Halem, M.	GSFC	Hoffert, M. I.	NSG 5045	2956
31	OHIO STATE UNIV	Hirschmann, E.	GSFC	Levis, C. A.	NAS 5-21983	3112
31	OLD DOMINION UNIV	Crumbly, K. H.	LARC	Harris, F. S., Jr.	NGR 47-003-068	3615
31	OLD DOMINION UNIV	Melfi, L. T., Jr.	LARC	Clay, F. P., Jr.	NGR 47-003-082	3617
31	OLD DOMINION UNIV	Keating, G. M.	LARC	Goglia, G. L.	NSG 1028	3621
31	OLD DOMINION UNIV	Remsberg, E. E.	LARC	Kindle, E. C.	NSG 1060	3625
31	OLD DOMINION UNIV	Reichle, H. G., Jr.	LARC	Kindle, E. C.	NSG 1127	3631
31	OLD DOMINION UNIV	Russell, J. M., III	LARC	Kindle, E. C.	NSG 1131	3632
31	OLD DOMINION UNIV	Reichle, H. G., Jr.	LARC	Tiwari, S. N.	NSG 1153	3636
31	OLD DOMINION UNIV	Allario, F.	LARC	Kindle, E. C.	NSG 1197	3640
31	OLD DOMINION UNIV	McCormick, M. P.	LARC	Deepak, A.	NSG 1252	3649
31	OLD DOMINION UNIV	McCormick, M. P.	LARC	Chu, W. P.	NSG 1259	3650
31	OLD DOMINION UNIV	Reichle, H. G., Jr.	LARC	Tiwari, S. N.	NSG 1282	3654
31	OLD DOMINION UNIV	Holland, A. C.	WFC	Bandy, A. R.	NSG 6002	3661
31	OLD DOMINION UNIV	Vitale, J. A.	HQ-P	Kindle, E. C.	NGL 47-003-067	3611
31	PENN STATE U-UNIV PK	Davis, R. E.	LARC	Cahir, J. J.	NSG 1280	3250
31	PENN STATE U-UNIV PK	Fichtl, G. H.	MSFC	Blackadar, A. K.	NAS 8-21140	3233
31	PENN STATE U-UNIV PK	Fichtl, G. H.	MSFC	Long, S. R.	NAS 8-27334	3234
31	PENN STATE U-UNIV PK	Duke, J. R.	WFC	Olivero, J.	NAS 6-2726	3232
31	POLY INST OF NY	Halem, M.	GSFC	Miller, J. E.	NSG 5041	2969
31	POLY INST OF NY	Fellows, R. F.	HQ-SL	Gross, S. H.	NGR 33-006-068	2961
31	RENSSELAER POLY-NY	Fellows, R. F.	HQ-SL	Harteck, P.	NGL 33-018-007	2976
31	RICE UNIVERSITY	Williams, R. J.	HQ-SL	Michel, F. C.	NSG 7032	3397
31	RICE UNIVERSITY	Fellows, R. F.	HQ-SL	Chamberlain, J. W.	NSG 7043	3398
31	RICE UNIVERSITY	Stuart-Alexander, D. E.	HQ-SM	Lenzen, K. H.	NSG 7025	3396
31	ST U NY COL-PURCHASE	Halem, M.	GSFC	Tenenbaum, J.	NSG 5077	3031
31	ST LOUIS UNIVERSITY	Fellows, R. F.	HQ-SL	Pallman, A. J.	NGR 26-006-042	2686
31	SAN DIEGO STATE UNIV	Pollack, J. B.	ARC	Angione, R. J.	NSG 2138	1274
31	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Riegel, C. A.	NCA 2-675509	1299
31	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Ellesen, R.	NCA 2-675518	1305
31	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Riegel, C. A.	NCA 2-675614	1319
31	SAN JOSE STATE UNIV	Whitten, R. C.	ARC	Riegel, C. A.	NSG 2130	1331
31	STANFORD UNIVERSITY	Zill, L. P.	ARC	Mitchner, M.	NCA 2-745517	1365
31	STANFORD UNIVERSITY	Reynolds, R. T.	ARC	Spreiter, J. R.	NSG 2072	1425
31	STANFORD UNIVERSITY	Heath, D. F.	GSFC	Wilcox, J. M.	NSG 5024	1435
31	STANFORD UNIVERSITY	Fellows, R. F.	HQ-SL	Eshleman, V. R.	NGL 05-020-014	1382
31	STATE UNIV NY-ALBANY	Reynolds, R. T.	ARC	Kiang, C. S.	NSG 2080	2991
31	STATE UNIV NY-ALBANY	Fellows, R. F.	HQ-SL	Weinberg, J. L.	NSG 7093	2993
31	STATE UNIV NY-ALBANY	King, J., Jr.	HQ-SU	Kiang, C. S.	NSG 7222	2994
31	STATE UNIV NY-ALBANY	King, J., Jr.	HQ-SU	Weinberg, J. L.	NSG 7230	2995
31	STATE U NY-STONY BRK	Hansen, J. E.	GSFC	Owen, T.	NGR 33-015-165	3014
31	STATE U NY-STONY BRK	Hansen, J. E.	GSFC	Hogan, J. S.	NSG 5015	3019
31	STATE U NY-STONY BRK	Stewart, R. W.	GSFC	Hogan, J. S.	NSG 5102	3020
31	STATE U NY-STONY BRK	Fellows, R. F.	HQ-SL	Varanasi, P.	NGR 33-015-139	3010
31	TENNESSEE TECH U	Humphries, W. R.	MSFC	Griggs, E. I.	NAS 8-31564	3326
31	TEXAS A&M UNIVERSITY	Ehernberger, L. J.	DFRC	Scoggins, J. R.	NGR 44-001-081	3434

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
31	TEXAS A&M UNIVERSITY	Hovis, W. A.	GSFC	El-Sayed, S. Z.	NAS 5-22966	3408
31	TEXAS A&M UNIVERSITY	Turner, R. E.	MSFC	Scoggins, J. R.	NAS 8-26751	3411
31	TEXAS A&M UNIVERSITY	Fichtl, G. H.	MSFC	Brundidge, K. C.	NAS 8-29582	3412
31	TEXAS A&M UNIVERSITY	Fichtl, G. H.	MSFC	Scoggins, J. R.	NAS 8-29764	3413
31	TEXAS A&M UNIVERSITY	Fichtl, G. H.	MSFC	Brundidge, K. C.	NAS 8-31234	3414
31	TEXAS A&M UNIVERSITY	Hill, C. K.	MSFC	Scoggins, J. R.	NAS 8-31773	3416
31	TEXAS A&M UNIVERSITY	Fellows, R. F.	HQ-SL	Plass, G. N.	NGR 44-001-117	3435
31	UNIV ALA-HUNTSVILLE	Smith, R. E.	MSFC	Hung, R. J.	NAS 8-30247	1049
31	UNIV ALA-HUNTSVILLE	Smith, R. E.	MSFC	Hung, R. J.	NAS 8-31321	1060
31	UNIV ALA-TUSCALOOSA	Randall, J. L.	MSFC	Webb, W. E.	NAS 8-25562	1070
31	UNIV ALASKA-FAIRBNKS	Haughney, L. C.	ARC	Sivjee, G. G.	NSG 2053	1091
31	UNIV ALASKA-FAIRBNKS	Crump, E. W.	GSFC	Belon, A. E.	NAS 5-21833	1086
31	UNIV OF ARIZONA	Hall, C. F.	ARC	Tomasko, M. G.	NAS 2-8818	1104
31	UNIV OF ARIZONA	Heath, D. F.	GSFC	Herman, B. M.	NGR 03-002-382	1147
31	UNIV OF ARIZONA	Levine, D. M.	GSFC	Krider, E. P.	NSG 5023	1154
31	UNIV OF ARIZONA	Curran, R. J.	GSFC	Herman, B. M.	NSG 5046	1156
31	UNIV OF ARIZONA	Toft, P. D.	KSC	Krider, E. P.	NAS10-8518	1114
31	UNIV OF ARIZONA	McCormick, M. P.	LARC	Herman, B. M.	NAS 1-14332	1101
31	UNIV OF ARIZONA	Fellows, R. F.	HQ-SL	Hoenig, S. A.	NGL 03-002-019	1131
31	UNIV ARKANSAS-FAYETV	Falls, L. W.	MSFC	Carter, M. C.	NAS 8-31550	1175
31	UNIV ARKANSAS-FAYETV	Huffaker, R. M.	MSFC	Skeith, R. W.	NAS 8-31771	1176
31	UNIV CALIF-BERKELEY	Fellows, R. F.	HQ-SL	Pimental, G. C.	NGL 05-003-286	1470
31	UNIV CALIF-BERKELEY	Donn, B. D.	HQ-SL	Cunningham, L. E.	NGR 05-003-309	1476
31	UNIV CALIF-IRVINE	Reed, E. F.	HQ-SU	Molina, M. J.	NSG 7208	1530
31	UNIV CALIF-L ANGELES	Pollack, J.	ARC	Schubert, G.	NSG 2094	1579
31	UNIV CALIF-L ANGELES	Ehernberger, L. J.	DFRC	Wurtele, M. G.	NSG 4001	1582
31	UNIV CALIF-L ANGELES	Halem, M.	GSFC	Mintz, Y.	NGR 05-007-328	1567
31	UNIV CALIF-L ANGELES	McCormick, M. P.	LARC	Kuriyan, J. G.	NSG 1270	1578
31	UNIV CALIF-L ANGELES	Fellows, R. F.	HQ-SL	Schubert, G.	NSG 7164	1589
31	UNIV CALIF-L ANGELES	Fellows, R. F.	HQ-SL	Aller, L. H.	NSG 7239	1591
31	UNIV CALIF-SAN DIEGO	Donley, J. L.	GSFC	Peterson, L. E.	NAS 5-11081	1596
31	UNIV CALIF-SAN DIEGO	Schmerling, E. R.	HQ-ST	Doupnik, J. R.	NSG 7001	1639
31	UNIV OF CHICAGO	Shenk, W. E.	GSFC	Fujita, T. T.	NGR 14-001-008	2063
31	UNIV OF CHICAGO	Fellows, R. F.	HQ-SL	Kaplan, L. D.	NGR 14-001-194	2067
31	UNIV COLORADO-BOLDR	Poppoff, I. G.	ARC	London, J.	NSG 2126	1792
31	UNIV COLORADO-BOLDR	Findlay, J. A.	GSFC	Barth, C. A.	NAS 5-11405	1759
31	UNIV COLORADO-BOLDR	Worrall, W.	GSFC	Bruner, E. C., Jr.	NAS 5-22409	1762
31	UNIV COLORADO-BOLDR	Pirraglia, J.	GSFC	Hard, C.	NAS 5-22460	1763
31	UNIV COLORADO-BOLDR	Benson, R. F.	GSFC	Calvert, W.	NAS 5-23346	1767
31	UNIV COLORADO-BOLDR	Fellows, R. F.	HQ-SL	Barth, C. A.	NGL 06-003-052	1773
31	UNIV COLORADO-BOLDR	Fellows, R. F.	HQ-SL	Barth, C. A.	NGL 06-003-064	1775
31	UNIV COLORADO-BOLDR	Brunk, W. E.	HQ-SL	Barth, C. A.	NGR 06-003-127	1778
31	UNIV COLORADO-BOLDR	King, J., Jr.	HQ-SU	London, J.	NSG 7224	1800
31	UNIV COLORADO-BOLDR	King, J., Jr.	HQ-SU	Thomas, R. J.	NSG 7231	1801
31	UNIV OF CONNECTICUT	Halem, M.	GSFC	Bock, P.	NSG 5075	1821
31	UNIV OF DAYTON	Duke, J. R.	WFC	Chupp, E. L.	NAS 6-2456	3149
31	UNIV OF FLORIDA	Toft, P. D.	KSC	Uman, M. A.	NGR 10-005-169	1926
31	UNIV OF FLORIDA	Fellows, R. F.	HQ-SL	Green, A. S.	NGL 10-005-008	1921
31	UNIV HOUSTON-HOUSTON	Cauffman, D. P.	HQ-ST	Sheldon, W. R.	NGR 44-005-133	3468
31	UNIV ILLINOIS-URBANA	King, J., Jr.	HQ-SU	Unavailable	W-14133	2097
31	UNIV OF IOWA	Davis, M. A.	GSFC	Gurnett, D. A.	NAS 5-11431	2173
31	UNIV OF KANSAS	Wexler, R.	GSFC	Eagleman, J. R.	NSG 5086	2215
31	UNIV OF KENTUCKY	Reichle, H. G., Jr.	LARC	Peters, L. K.	NSG 1273	2231
31	UNIV MARYLAND-COL PK	Boese, R. W.	ARC	Wilkerson, T. B.	NCA 2-420701	2311
31	UNIV MARYLAND-COL PK	Spencer, N. W.	GSFC	Wilkerson, T. W.	NAS 5-22537	2302
31	UNIV MARYLAND-COL PK	Findlay, J. A.	GSFC	Messenger, C. J.	NAS 5-22835	2304
31	UNIV MARYLAND-COL PK	Neupert, W. M.	GSFC	Smith, E.	NCA 5-3	2313
31	UNIV MARYLAND-COL PK	Kastner, S. O.	GSFC	Martin, F. W.	NCA 5-4	2314

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
31	UNIV MARYLAND-COL PK	Northrop, T. G.	GSFC	Smith, E. V.	NGL 21-002-033	2320
31	UNIV MARYLAND-COL PK	Brace, L. H.	GSFC	Matthews, D. L.	NGR 21-002-096	2326
31	UNIV MARYLAND-COL PK	Theon, J. S.	GSFC	Thompson, O. E.	NSG 5084	2357
31	UNIV MARYLAND-COL PK	Northam, G. B.	LARC	Gammon, R. W.	NSG 1156	2345
31	UNIV OF MIAMI	Hovis, W. A.	GSFC	Gordon, H. R.	NAS 5-22963	1936
31	UNIV MICH-ANN ARBOR	Hedin, A.	GSFC	Carignan, G. R.	NAS 5-11376	2556
31	UNIV MICH-ANN ARBOR	Sing, M. L.	GSFC	Cliff, R. A.	NAS 5-11380	2557
31	UNIV MICH-ANN ARBOR	Wright, D. U., Jr.	GSFC	Horvath, J. J.	NAS 5-20622	2558
31	UNIV MICH-ANN ARBOR	Krehbiel, J. P.	GSFC	Carignan, G. R.	NAS 5-20806	2559
31	UNIV MICH-ANN ARBOR	Cooley, J. E.	GSFC	Carignan, G. R.	NAS 5-20939	2561
31	UNIV MICH-ANN ARBOR	Krehbiel, J. P.	GSFC	Brace, L. H.	NAS 5-22587	2563
31	UNIV MICH-ANN ARBOR	Corrigan, J. P.	GSFC	Hays, P. B.	NAS 5-23006	2566
31	UNIV MICH-ANN ARBOR	Spencer, N. W.	GSFC	Carignan, G. R.	NAS 5-23230	2567
31	UNIV MICH-ANN ARBOR	Curran, R. J.	GSFC	Weil, H.	NSG 5044	2598
31	UNIV MICH-ANN ARBOR	Levine, D. M.	GSFC	Senior, T. B.	S-54214A	2606
31	UNIV MICH-ANN ARBOR	Stanley, J. F.	JSC	Anderson, J. G.	NSG 9031	2605
31	UNIV MICH-ANN ARBOR	Russell, J. M., III	LARC	Drayson, S. R.	NAS 1-14394	2549
31	UNIV MICH-ANN ARBOR	Reichle, H. G., Jr.	LARC	Drayson, S. R.	NGR 23-005-617	2588
31	UNIV MICH-ANN ARBOR	Russell, J. M., III	LARC	Drayson, S. R.	NSG 1003	2589
[illegible]	UNIV MICH-ANN ARBOR	Pellett, G. L.	LARC	Dingle, A. N.	NSG 1243	2593
31	UNIV MICH-ANN ARBOR	Devries, L. L.	MSFC	Stedman, D. H.	NAS 8-30625	2569
31	UNIV MICH-ANN ARBOR	Roberts, W. T.	MSFC	Samir, U.	NAS 8-31772	2571
31	UNIV MICH-ANN ARBOR	Fellows, R. F.	HQ-SL	Liu, W. C.	NGR 23-005-094	2578
31	UNIV MICH-ANN ARBOR	Fellows, R. F.	HQ-SL	Bartman, F. L.	NGR 23-005-540	2586
31	UNIV MICH-ANN ARBOR	Cauffman, D. P.	HQ-ST	Nagy, A. F.	NGR 23-005-015	2577
31	UNIV MICH-ANN ARBOR	King, J., Jr.	HQ-SU	Donahue, T. M.	NSG 7209	2604
31	U MINN-MNPLS-ST PAUL	Thorley, G. W.	ARC	Nier, A. O.	NAS 2-8812	2617
31	U MINN-MNPLS-ST PAUL	Corrigan, J. P.	GSFC	Nier, A. O.	NAS 5-11438	2621
31	U MINN-MNPLS-ST PAUL	Beswick, A. G.	LARC	Nier, A. O.	NAS 1-11676	2615
31	U MINN-MNPLS-ST PAUL	Keating, G. M.	LARC	Mauersberger, K.	NAS 1-13712	2616
31	U MINN-MNPLS-ST PAUL	Fellows, R. F.	HQ-SL	Nier, A. O.	NGL 24-005-009	2628
31	U MINN-MNPLS-ST PAUL	Fellows, R. F.	HQ-SL	Nier, A. [illegible]	NGR 24-005-196	2633
31	U MINN-MNPLS-ST PAUL	King, J., Jr.	HQ-SU	Mauersb[illegible], K.	NSG 7221	2647
31	UNIV MO-COLUMBIA	Curran, R. J.	GSFC	Schuster, B. G.	NAS 5-20818	2688
31	UNIV MO-COLUMBIA	Smith, R. E.	MSFC	Plummer, P. L.	NAS 8-31150	2690
31	UNIV MO-COLUMBIA	Smith, R. E.	MSFC	Dunipace, K. R.	NAS 8-31849	2692
31	UNIV NEBRASKA-LINCLN	Fellows, R. F.	HQ-SL	Samson, J. A.	NGR 28-004-021	2726
31	UNIV NEVADA-DRI	Smith, R. E.	MSFC	Squires, P.	NAS 8-31470	2728
31	UNIV NEVADA-DRI	Schrick, B. J.	MSFC	Squires, P.	NAS 8-31776	2729
31	UNIV OF NEVADA-RENO	Smith, R. E.	MSFC	Squires, P.	NAS 8-31780	2732
31	UNIV OF NEW MEXICO	Haughney, L. C.	ARC	Peterson, A. W.	NSG 2052	2838
31	UNIV OF NEW MEXICO	Hyder, C. L.	GSFC	Regener, V. H.	NCA 5-31	2821
31	UNIV OF NEW MEXICO	Jones, H. P.	GSFC	Regener, V. H.	NCA 5-32	2822
31	UNIV OF NEW MEXICO	Hyder, C. L.	GSFC	Regener, V. H.	NCA 5-34	2823
31	UNIV OF NEW MEXICO	Maran, S. P.	GSFC	John, R. S.	NCA 5-36	2824
31	UNIV OKLAHOMA-NORMAN	Turner, R. E.	MSFC	Inman, R. L.	NAS 8-31333	3173
31	UNIV OKLAHOMA-NORMAN	Camp, D. W.	MSFC	Inman, R. L.	NAS 8-31377	3174
31	UNIV OF PITTSBURGH	Dubin, M.	HQ-SA	Zipf, E. C., Jr.	NGR 39-011-113	3282
31	UNIV OF PITTSBURGH	Fellows, R. F.	HQ-SL	Fite, W. L.	NGL 39-011-013	3277
31	UNIV OF PITTSBURGH	Fellows, R. F.	HQ-SL	Zipf, E. C., Jr.	NGL 39-011-030	3278
31	UNIV OF PITTSBURGH	Fellows, R. F.	HQ-SL	Biondi, M. A.	NGR 39-011-137	3283
31	UNIV OF SANTA CLARA	Zill, L. P.	ARC	McCormick, P. T.	NCA 2-685507	1681
31	UNIV OF SANTA CLARA	Hochstein, L. I.	ARC	Tomlinson, G. A.	NCA 2-685614	1690
31	UNIV SO CAROLINA-COL	Fellows, R. F.	HQ-SL	Durig, J. R.	NGL 41-002-003	3311
31	UNIV OF SOUTHERN CAL	Fellows, R. F.	HQ-SL	Maxworthy, T.	NGR 05-018-178	1713
31	UNIV OF SOUTHERN CAL	Fellows, R. F.	HQ-SL	Judge, D. L.	NGR 05-018-180	1714
31	UNIV TENNESSEE-KNOXV	Kunde, V. G.	GSFC	Fox, K.	NAS 5-20672	3329
31	UNIV TENNESSEE-KNOXV	Hill, K.	MSFC	Frost, W.	NAS 8-31718	3335

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
31	UNIV TENNESSEE-KNOXV	Fichtl, G. H.	MSFC	Frost, W.	NAS 8-32118	3337
31	UNIV TENNESSEE-KNOXV	Fellows, R. F.	HQ-SL	Gailar, N. M.	NGL 43-001-006	3338
31	U TENNESSEE-MEMPHIS	Allen, W. K.	GSFC	Rochelle, R. W.	NAS 5-22495	3350
31	UNIV TEXAS-DALLAS	Hall, C. F.	ARC	Hoffman, J. H.	NAS 2-8802	3522
31	UNIV TEXAS-DALLAS	Corrigan, J. P.	GSFC	Hoffman, J. H.	NAS 5-11406	3523
31	UNIV TEXAS-DALLAS	Corrigan, J. P.	GSFC	Hanson, W. B.	NAS 5-11407	3524
31	UNIV TEXAS-DALLAS	Brace, L. H.	GSFC	Heikkila, W. J.	NSG 5085	3537
31	UNIV TEXAS-DALLAS	Brace, L. H.	GSFC	Hoffman, J. H.	NSG 5087	3538
31	UNIV TEXAS-DALLAS	Fellows, R. F.	HQ-SL	Johnson, F. S.	NGL 44-004-001	3528
31	UNIV TEXAS-DALLAS	Fellows, R. F.	HQ-SL	Johnson, F. S.	NGL 44-004-026	3529
31	UNIV TEXAS-DALLAS	Williams, R. J.	HQ-SL	Hodges, R. R., Jr.	NSG 7034	3539
31	UNIV TEXAS-DALLAS	Taylor, W. W.	HQ-ST	Hanson, W. B.	NGR 44-004-120	3532
31	UNIV TEXAS-DALLAS	Schmerling, E. R.	HQ-ST	Heikkila, W. J.	NGR 44-004-150	3536
31	UNIV TEXAS-DALLAS	Schmerling, E. R.	HQ-ST	Hoffman, J. H.	NSG 7107	3540
31	UNIV OF UTAH	Hardesty, C. A.	LARC	Weil, H.	NGL 45-003-025	3565
31	UNIV OF UTAH	Duke, J. R.	WFC	Kao, S. K.	NAS 6-2498	3559
31	UNIV OF UTAH	Duke, J. R.	WFC	Staffanson, F. L.	NAS 6-2627	3560
31	UNIV OF WASHINGTON	Eberstein, I.	GSFC	Leovy, C. B.	NSG 5039	3759
31	UNIV OF WASHINGTON	Williams, T. S., Jr.	LARC	Leovy, C. B.	NAS 1-9694	3735
31	UNIV OF WASHINGTON	Russell, J. M., III	LARC	Leovy, C. B.	NAS 1-14341	3736
31	UNIV OF WASHINGTON	Fellows, R. F.	HQ-SL	Leovy, C. B.	NGR 48-002-162	3757
31	UNIV OF WASHINGTON	Fellows, R. F.	HQ-SL	Leovy, C. B.	NSG 7085	3760
31	UNIV WISC-MADISON	Hall, C. F.	ARC	Suomi, V. E.	NAS 2-8813	3774
31	UNIV WISC-MADISON	Theon, J. S.	GSFC	Suomi, V. E.	NAS 5-21798	3777
31	UNIV WISC-MADISON	Moody, J. C.	GSFC	Suomi, V. E.	NAS 5-21965	3778
31	UNIV WISC-MADISON	Worrall, W.	GSFC	Kraushaar, W. L.	NAS 5-22410	3780
31	UNIV WISC-MADISON	Greaves, J. R.	GSFC	Suomi, V. E.	NAS 5-23296	3782
31	UNIV WISC-MADISON	Greaves, J. R.	GSFC	Suomi, V. E.	NAS 5-23462	3783
31	UNIV WISC-MADISON	Halem, M.	GSFC	Suomi, V. E.	NGR 50-002-215	3796
31	UNIV WISC-MADISON	Northam, G. B.	LARC	Weinman, J. A.	NAS 1-14136	3771
31	UNIV WISC-MADISON	Fellows, R. F.	HQ-SL	Suomi, V. E.	NGR 50-002-189	3794
31	UNIV OF WYOMING	Crumbly, K. H.	LARC	Pepin, T. J.	NAS 1-13213	3808
31	UNIV OF WYOMING	Hedgepeth, K. D.	LARC	Pepin, T. J.	NAS 1-13797	3809
31	UNIV OF WYOMING	McCormick, M. P.	LARC	Pepin, T. J.	NAS 1-14373	3810
31	UNIV OF WYOMING	Schrick, B. J.	MSFC	Vali, G.	NAS 8-32067	3811
31	UNIV OF WYOMING	King, J., Jr.	HQ-SU	Hofmann, D. J.	NSG 7207	3813
31	UTAH STATE UNIV	Lowenstein, M.	ARC	Shaw, A. W.	NAS 2-8108	3573
31	UTAH STATE UNIV	King, J., Jr.	HQ-SU	Baker, K. D.	NSG 7210	3578
31	VIRGINIA POLY INST	Byvik, C. E.	LARC	Wightman, J. P.	NAS 1-10646	3689
31	VIRGINIA POLY INST	Campbell, J. W.	LARC	Myers, R. H.	NSG 1182	3716
31	VIRGINIA POLY INST	Carr, R. E.	WFC	Tieleman, H. W.	NGL 47-004-067	3697
31	WASHINGTON ST UNIV	King, J., Jr.	HQ-SU	Rasmussen, R. A.	NSG 7214	3765
31	YALE UNIVERSITY	Fellows, R. F.	HQ-SL	Cross, R. J., Jr.	NGL 07-004-043	1825
31	YORK UNIVERSITY	Baker, C. E.	LERC	Schiff, H. I.	NGR 52-134-005	3817
32	ARIZONA STATE UNIV	Bunch, T.	ARC	Moore, C. B.	NCA 2-35602	1094
32	ARIZONA STATE UNIV	French, B. M.	HQ-SL	Moore, C. B.	NGL 03-001-001	1095
32	ARIZONA STATE UNIV	Williams, R. J.	HQ-SL	Larimer, J. W.	NSG 7040	1098
32	ARIZONA STATE UNIV	Williams, R. J.	HQ-SL	Holloway, J. R.	NSG 7217	1099
32	BOSTON UNIVERSITY	Young, R. S.	HQ-SB	Margulis, L.	NGR 22-004-025	2374
32	BRIGHAM YOUNG UNIV	Phinney, W. C.	JSC	Laole, G. H.	NAS 9-14499	3552
32	BROWN UNIVERSITY	Harris, J. W.	JSC	Rutherford, M. J.	NGR 40-002-123	3298
32	BROWN UNIVERSITY	Dwornik, S. E.	HQ-SL	Mutch, T. A.	NGR 40-002-088	3295
32	BROWN UNIVERSITY	Williams, R. J.	HQ-SL	Head, J. W., Jr.	NGR 40-002-116	3297
32	BROWN UNIVERSITY	Kosofsky, L. J.	HQ-SM	Head, J. W., III	NASW 2827	3294
32	CALIF INST OF TECH	Young, R. S.	HQ-SB	Bonner, J.	NGR 05-002-310	1227
32	CALIF INST OF TECH	Williams, R. J.	HQ-SL	Ahrens, T. J.	NGL 05-002-105	1204
32	CALIF INST OF TECH	Dwornik, S. E.	HQ-SL	Murray, B. C.	NGR 05-002-117	1215
32	CALIF INST OF TECH	Dwornik, S. E.	HQ-SL	Shoemaker, E. M.	NGR 05-002-303	1225

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
32	CALIF INST OF TECH	Fellows, R. F.	HQ-SL	Neugebauer, G.	NSG 7094	1237
32	CALIF INST OF TECH	Williams, R. J.	HQ-SL	Ahrens, T. J.	NSG 7129	1240
32	CALIF INST OF TECH	Dwornik, S. E.	HQ-SL	Murray, B. C.	NSG 7155	1243
32	CALIF INST OF TECH	Dwornik, S. E.	HQ-SL	Anderson, D. L.	NSG 7160	1244
32	CALIF INST OF TECH	Williams, R. J.	HQ-SL	Burnett, D. S.	NSG 7202	1246
32	CALIF INST OF TECH	Bryson, R. P.	HQ-SM	Anderson, D. L.	NGL 05-002-069	1203
32	CALIF INST OF TECH	Stuart-Alexander, D. E.	HQ-SM	Burnett, D. S.	NSG 7023	1235
32	CALIF INST OF TECH	Bryson, R. P.	HQ-SM	Wasserburg, G. J.	NSG 7084	1236
32	CAL STATE U-HAYWARD	Zill, L. P.	ARC	Warnke, D. E.	NCA 2-290501	1259
32	CITY COLLEGE OF N Y	Rossi, L. C.	WFC	Pierson, W. J.	NAS 6-2439	2848
32	CITY U N Y-GRAD SCHL	Kosofsky, L. J.	HQ-SM	Saxena, S. K.	NSG 7028	2858
32	COLORADO STATE UNIV	Carpenter, L. H.	GSFC	Thompson, E. G.	NGR 06-002-191	1747
32	COLUMBIA UNIVERSITY	Smith, D. E.	GSFC	Bilham, R. G.	NSG 5072	2889
32	COLUMBIA UNIVERSITY	Ungar, S. G.	GSFC	Webb, K. E.	NSG 5080	2891
32	COLUMBIA UNIVERSITY	Harris, J. W.	JSC	Schreiber, E.	NSG 9025	2898
32	COLUMBIA UNIVERSITY	Stanley, H. R.	WFC	Talwani, M.	NAS 6-2519	2871
32	COLUMBIA UNIVERSITY	Williams, R. J.	HQ-SL	Langseth, M. G.	NSG 7194	2895
32	COLUMBIA UNIVERSITY	French, B. M.	HQ-SL	O'Nions, R. K.	NSG 7200	2896
32	CORNELL UNIVERSITY	Smith, D. E.	GSFC	Turcotte, D. L.	NSG 5060	2931
32	CORNELL UNIVERSITY	Williams, R. J.	HQ-SL	Kuckes, A. F.	NGR 33-010-178	2920
32	CORNELL UNIVERSITY	Dwornik, S. E.	HQ-SL	Sagan, C. E.	NGR 33-010-220	2925
32	CORNELL UNIVERSITY	Dwornik, S. E.	HQ-SL	Veverka, J.	NSG 7156	2935
32	CORNELL UNIVERSITY	Stuart-Alexander, D. E.	HQ-SM	Gold, T.	NGL 33-010-005	2907
32	CORNELL UNIVERSITY	Stuart-Alexander, D. E.	HQ-SM	Turcotte, D. L.	NGR 33-010-108	2914
32	DE ANZA COLLEGE	Blanchard, M. B.	ARC	Greisen, K. I.	NSG 2005	1268
32	FAIRLEIGH-DICKNSON U	Kosofsky, L. J.	HQ-SM	Adams, J. B.	NGL 31-006-010	2745
32	FAIRLEIGH-DICKNSON U	Kosofsky, L. J.	HQ-SM	Hartung, J. B.	NSG 7047	2747
32	FLORIDA STATE UNIV	Schnetzler, C. C.	GSFC	Buie, B. F.	NAS 5-22578	1907
32	FLORIDA STATE UNIV	Williams, T. S., Jr.	LARC	Hess, S. K.	NAS 1-9693	1906
32	GEORGIA INST OF TECH	Downs, S. W., Jr.	MSFC	Faust, C. E.	NAS 8-31990	1978
32	GEORGIA SOUTHWTN COL	Bensko, J.	MSFC	Arden, D. D.	NAS 8-30884	2000
32	HARVARD UNIVERSITY	Young, R. S.	HQ-SB	Barghoorn, E. S.	NGL 22-007-069	2392
32	HARVARD UNIVERSITY	Dwornik, S. E.	HQ-SL	Cameron, A. G.	NGR 22-007-269	2401
32	HARVARD UNIVERSITY	Williams, R. J.	HQ-SL	Cameron, A. G.	NSG 7191	2413
32	INDIANA U-BLOOMINGTN	Young, R. S.	HQ-SB	Hayes, J. M.	NGR 15-003-118	2111
32	IOWA STATE UNIV	Zill, L. P.	ARC	Iversen, J. D.	NCA 2-340501	2151
32	IOWA STATE UNIV	Zill, L. P.	ARC	Iversen, J. D.	NCA 2-340601	2157
32	JOHNS HOPKINS UNIV	Coates, R. J.	GSFC	Marsh, B. D.	NSG 5090	2290
32	LEHIGH UNIVERSITY	Stuart-Alexander, D. E.	HQ-SM	Goldstein, J. I.	NGR 39-007-043	3218
32	MASS INST OF TECH	Fichti, G. H.	MSFC	Hart, J. E.	NAS 8-31149	2437
32	MASS INST OF TECH	Brunk, W. E.	HQ-SL	Barrett, A. H.	NGL 22-009-016	2446
32	MASS INST OF TECH	Williams, R. J.	HQ-SL	McCord, T. B.	NGR 22-009-790	2483
32	MASS INST OF TECH	Williams, R. J.	HQ-SL	Counselman, C. C., III	NSG 7010	2518
32	MASS INST OF TECH	Williams, R. J.	HQ-SL	McCord, T. B.	NSG 7048	2519
32	MASS INST OF TECH	Williams, R. J.	HQ-SL	Lewis, J. S.	NSG 7077	2520
32	MASS INST OF TECH	Williams, R. J.	HQ-SL	Toksoz, M. N.	NSG 7081	2521
32	MASS INST OF TECH	Williams, R. J.	HQ-SL	Madden, T. R.	NSG 7115	2523
32	MASS INST OF TECH	Williams, R. J.	HQ-SL	Counselman, C. C., III	NSG 7118	2524
32	MASS INST OF TECH	Kosofsky, L. J.	HQ-SM	Press, F.	NGL 22-009-187	2450
32	MASS INST OF TECH	Bryson, R. P.	HQ-SM	McCord, T. B.	NGR 22-009-350	2461
32	NEW MEX INST MINING	Broderick, J. C.	GSFC	Vander Linden, K.	NAS 5-20916	2796
32	NORTHERN ARIZONA U	Dwornik, S. E.	HQ-SL	Cotera, A. S.	NSG 7182	1100
32	NORTHWESTERN UNIV	Bryson, R. P.	HQ-SM	Hynek, J. A.	NGL 14-007-016	2039
32	OHIO STATE UNIV	Marsh, J. G.	GSFC	Rapp, R. H.	NGR 36-008-161	3122
32	OHIO STATE UNIV	Stanley, H. R.	WFC	Rapp, R. H.	NAS 6-2484	3115
32	OHIO STATE UNIV	Murphy, J. P.	HQ-ES	Mueller, I. I.	NASW 2435	3117
32	OHIO STATE UNIV	Murphy, J. P.	HQ-ES	Mueller, I. I.	NGR 36-008-204	3123
32	OREGON STATE UNIV	Dwornik, S. E.	HQ-SL	Komar, P. D.	NSG 7178	3185

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
32	OREGON STATE UNIV	Bryson, R. P.	HQ-SM	Schmitt, R. A.	NGL 38-002-020	3182
32	PAN AMERICAN UNIV	Huntress, W. T.	JPL	Glaser, F. M.	NGR 44-087-002	3377
32	PENN STATE U-UNIV PK	Schnetzler, C. C.	GSFC	McMurtry, G. J.	NAS 5-22304	3228
32	PENN STATE U-UNIV PK	Podwysocki, M. H.	GSFC	Gold, D. P.	NAS 5-22822	3229
32	PENN STATE U-UNIV PK	Williams, R. J.	HQ-SL	Muan, A.	NSG 7120	3260
32	PENN STATE U-UNIV PK	Williams, R. J.	HQ-SL	Alexander, S. S.	NSG 7193	3261
32	PENN STATE U-UNIV PK	Bryson, R. P.	HQ-SM	Gold, D. P.	NGL 39-009-010	3239
32	PRINCETON UNIVERSITY	Leckrone, D. S.	GSFC	Jenkins, E. B.	NAS 5-22360	2755
32	PRINCETON UNIVERSITY	Williams, R. J.	HQ-SL	Phinney, R. A.	NSG 7080	2788
32	PURDUE UNIVERSITY	Langel, R. A.	GSFC	Hinze, W. J.	NAS 5-22816	2116
32	PURDUE UNIVERSITY	Lynch, T. J.	GSFC	Wintz, P. A.	NSG 5010	2140
32	PURDUE UNIVERSITY	French, B. M.	HQ-SL	Lipschutz, M. E.	NGL 15-005-140	2123
32	QUEENS COLLEGE	Harris, J. W.	JSC	Coch, N. K.	NSG 9022	2970
32	RICE UNIVERSITY	Meese, K. J.	GSFC	Anderson, H. R., Jr.	NAS 5-9317	3382
32	RICE UNIVERSITY	Harris, J. W.	JSC	Heymann, D.	NGL 44-006-177	3392
32	RICE UNIVERSITY	Williams, R. J.	HQ-ST	Freeman, J. W., Jr.	NSG 7157	3399
32	ST LAWRENCE UNIV	Short, N. M.	GSFC	Erickson, J. M.	NSG 5018	2988
32	ST MARY'S UNIVERSITY	Horz, F.	JSC	Hanss, R. E.	NSG 9039	3400
32	SAN DIEGO STATE UNIV	Williams, R. J.	HQ-SL	Rehfuss, D. E.	NSG 7026	1275
32	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Bornstein, R. D.	NCA 2-675607	1313
32	SAN JOSE STATE UNIV	Blanchard, M. B.	ARC	Maddock, M. E.	NCA 2-675613	1318
32	SO DAKOTA STATE UNIV	Gordon, F.	GSFC	Schmer, F.	NAS 5-20982	3315
32	STANFORD UNIVERSITY	Schutt, J. B.	GSFC	Lyon, R. J.	NSG 5050	1436
32	STANFORD UNIVERSITY	Dwornik, S. E.	HQ-SL	Howard, H. T.	NGR 05-020-649	1408
32	STANFORD UNIVERSITY	Williams, R. J.	HQ-SL	Tyler, G. L.	NSG 7029	1437
32	STANFORD UNIVERSITY	Williams, R. J.	HQ-SL	Nur, A. M.	NSG 7117	1441
32	STATE UNIV NY-BUFFAL	Dwornik, S. E.	HQ-SL	King, J. S.	NGR 33-015-108	3002
32	ST U NY COL-GENESEO	Hardee, S. N.	JSC	Young, R. A.	NAS 9-12770	3029
32	STATE U NY-STONY BRK	Harris, J. W.	JSC	Hartwig, J. B.	NSG 9013	3025
32	STATE U NY-STONY BRK	Williams, R. J.	HQ-SL	Papike, J. J.	NSG 7150	3023
32	STATE U NY-STONY BRK	Williams, R. J.	HQ-SL	Schaeffer, O. A.	NSG 7225	3024
32	STATE U NY-STONY BRK	Stuart-Alexander, D. E.	HQ-SM	Hartung, J. B.	NSG 7036	3022
32	TEXAS A&M UNIVERSITY	Buras, N. T.	JSC	Schell, J. A.	NAS 9-14875	3429
32	TEXAS A&M UNIVERSITY	Williams, R. J.	HQ-SL	Rowe, M. W.	NGR 44-001-152	3436
32	TEXAS A&M UNIVERSITY	Williams, R. J.	HQ-SL	Gangi, A. F.	NSG 7189	3440
32	TULANE UNIVERSITY	Dwornik, S. E.	HQ-SL	Meyer, J. D.	NGR 19-002-038	2263
32	UNIV ALA-HUNTSVILLE	Bensko, J.	MSFC	Doyle, L.	NAS 8-31345	1061
32	UNIV ALA-TUSCALOOSA	Bensko, J.	MSFC	Hughes, T. H.	NAS 8-29936	1074
32	UNIV ALA-TUSCALOOSA	Bensko, J.	MSFC	Stow, S. H.	NAS 8-29937	1075
32	UNIV ALASKA-FAIRBNKS	Broderick, J. C.	GSFC	Gedney, L.	NAS 5-20803	1083
32	UNIV ALASKA-FAIRBNKS	Baldwin, R. R.	JSC	Wescott, E. M.	NAS 9-13945	1088
32	UNIV OF ARIZONA	Young, R. S.	HQ-SB	Nagy, B.	NGR 03-002-171	1139
32	UNIV OF ARIZONA	Williams, R. J.	HQ-SL	Strom, R. G.	NGL 03-002-191	1135
32	UNIV OF ARIZONA	Dwornik, S. E.	HQ-SL	Sonett, C. P.	NGR 03-002-370	1144
32	UNIV OF ARIZONA	French, B. M.	HQ-SL	Wilkening, L. L.	NSG 7011	1157
32	UNIV OF ARIZONA	Dwornik, S. E.	HQ-SL	Strom, R. G.	NSG 7146	1167
32	UNIV OF ARIZONA	Williams, R. J.	HQ-SL	Greenberg, R.	NSG 7201	1169
32	UNIV OF ARIZONA	French, B. M.	HQ-SL	Gehrels, A. M.	NSG 7246	1171
32	UNIV OF ARIZONA	French, B. M.	HQ-SL	Zellner, B. H.	NSG 7249	1172
32	UNIV OF ARIZONA	Hanley, J. B.	HQ-SM	Whitaker, E. A.	NSG 7014	1158
32	UNIV OF ARIZONA	Stuart -Alexander, D. E.	HQ-SM	Sonett, C. P.	NSG 7020	1159
32	U ARKANSAS-MONTICELO	Dwornik, S. E.	HQ-SL	Dehon, R. A.	NGR 04-008-001	1183
32	U ARKANSAS-MONTICELO	Williams, R. J.	HQ-SL	Dehon, R. A.	NSG 7216	1184
32	U ARKANSAS-MONTICELO	Dwornik, S. E.	HQ-SL	Dehon, R. A.	NSG 7244	1185
32	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Sherman, F. S.	NCA 2-50302	1453
32	UNIV CALIF-BERKELEY	Stonesifer, G. R.	GSFC	Colwell, R. N.	NAS 5-20969	1445
32	UNIV CALIF-BERKELEY	Gallagher, W. F.	GSFC	Anderson, K. A.	NAS 5-22307	1447
32	UNIV CALIF-BERKELEY	Young, R. S.	HQ-SB	Calvin, M.	NGL 05-003-003	1466

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
32	UNIV CALIF-DAVIS	Millard, J.	ARC	Hatfield, J. L.	NCA 2-180607	1524
32	UNIV CALIF-DAVIS	Schmerling, E. R.	HQ-ST	McIlwain, C. E.	NGR 05-004-006	1526
32	UNIV CALIF-DAVIS	Pollack, J. B.	HQ-	White, B. R.	NCA 2-180605	1523
32	UNIV CALIF-L ANGELES	Zill, L. P.	ARC	Coleman, P. J., Jr.	NCA 2-390503	1550
32	UNIV CALIF-L ANGELES	Wales, R. O.	GSFC	McPherron, R. L.	NAS 5-11674	1538
32	UNIV CALIF-L ANGELES	Murphy, J. P.	HQ-ES	Kaula, W. M.	NSG 7002	1585
32	UNIV CALIF-L ANGELES	Young, R. S.	HQ-SB	Kaplan, I. R.	NGR 05-007-221	1562
32	UNIV CALIF-L ANGELES	Young, R. S.	HQ-SB	Schopf, J. W.	NGR 05-007-407	1573
32	UNIV CALIF-L ANGELES	Dwornik, S. E.	HQ-SL	Schubert, G.	NGR 05-007-317	1565
32	UNIV CALIF-L ANGELES	French, B. M.	HQ-SL	Wasson, J. T.	NGR 05-007-329	1568
32	UNIV CALIF-L ANGELES	Williams, R. J.	HQ-SL	Coleman, P. J., Jr	NGR 05-007-351	1571
32	UNIV CALIF-L ANGELES	Williams, R. J.	HQ-SL	Kieffer, S. W.	NSG 7052	1586
32	UNIV CALIF-L ANGELES	Stuart-Alexander, D. E.	HQ-SM	Kaula, W. M.	NGL 05-007-002	1553
32	UNIV CALIF-L ANGELES	Bryson, R. P.	HQ-SM	Kennedy, G. C.	NGL 05-007-006	1557
32	UNIV CALIF-SAN DIEGO	Mead, G. D.	GSFC	Jordan, T. H.	NSG 5089	1638
32	UNIV CALIF-SAN DIEGO	Williams, R. J.	HQ-SL	Arrhenius, G.	NGL 05-009-002	1609
32	UNIV CALIF-SAN DIEGO	French, B. F.	HQ-SL	Arnold, J. R.	NGL 05-009-004	1610
32	UNIV CALIF-SAN DIEGO	Williams, R. J.	HQ-SL	Arnold, J. R.	NGR 05-005-005	1616
32	UNIV CALIF-SAN DIEGO	Williams, R. J.	HQ-SL	Arnold, J. R.	NSG 7027	1640
32	UNIV CALIF-SAN DIEGO	Dwornik, S. E.	HQ-SL	Alfven, H.	NSG 7102	1642
32	UNIV CALIF-SAN DIEGO	French, B. M.	HQ-SL	MacDougall, J. D.	NSG 7121	1643
32	UNIV CALIF-SAN DIEGO	Dwornik, S. E.	HQ-SL	Alfven, H.	W-14108	1645
32	UNIV CALIF-S BARBARA	Harris, J. W.	JSC	Tilton, G. R.	NGR 05-010-081	1658
32	UNIV CALIF-S BARBARA	Young, R. S.	HQ-SB	Cloud, P. E.	NGR 05-010-035	1656
32	UNIV CALIF-S BARBARA	Dwornik, S. E.	HQ-SL	Peale, S. J.	NGR 05-010-062	1657
32	UNIV CALIF-S BARBARA	Bryson, R. P.	HQ-SM	Fuller, M. D.	NSG 7122	1660
32	UNIV OF CHICAGO	French, B. M.	HQ-SL	Anders, E.	NGL 14-001-010	2058
32	UNIV OF CHICAGO	Dwornik, S. E.	HQ-SL	Turkevich, A. L.	NGR 14-001-135	2064
32	UNIV OF CHICAGO	French, B. M.	HQ-SL	Grossman, L.	NGR 14-001-249	2071
32	UNIV OF CHICAGO	Williams, R. J.	HQ-SL	Schramm, D. N.	NSG 7212	2074
32	UNIV COLORADO-BOLDR	Broderick, J. C.	GSFC	Ives, J. D.	NAS 5-20914	1760
32	UNIV COLORADO-BOLDR	Harris, J. W.	JSC	Spetzler, H. A.	NSG 9036	1802
32	UNIV COLORADO-BOLDR	Dwornik, S. E.	HQ-SL	Peterson, J. E.	NGR 06-003-199	1782
32	UNIV OF GEORGIA	Dwornik, S. E.	HQ-SL	Howard, H. T.	NGR 11-003-037	2016
32	UNIV OF HAWAII-MANOA	Strickland, A. T.	HQ-SL	Jefferies, J. T.	NGR 12-001-127	2029
32	UNIV HOUSTON-HOUSTON	Young, R. S.	HQ-SB	Oro, J.	NGR 44-005-002	3465
32	UNIV HOUSTON-HOUSTON	Dwornik, S. E.	HQ-SL	King, E. A., Jr.	NGR 44-005-131	3467
32	UNIV HOUSTON-HOUSTON	Williams, R. J.	HQ-SL	Butler, J. C.	NSG 7198	3473
32	UNIV OF IOWA	Amsbury, D. L.	JSC	Hoppin, R. A.	NAS 9-13313	2177
32	UNIV OF KANSAS	Broderick, J. C.	GSFC	Haralick, R. M.	NAS 5-20943	2198
32	UNIV OF KANSAS	Eckerman, J.	GSFC	Moore, R. K.	NAS 5-22325	2199
32	UNIV OF KANSAS	Dwornik, S. E.	HQ-SL	Warnke, D. E.	NGR 17-002-106	2196
32	UNIV MARYLAND-COL PK	Philpotts, J. A.	GSFC	Weidner, J. R.	NGR 21-002-368	2334
32	UNIV MARYLAND-COL PK	Rango, A.	GSFC	Ragan, R. M.	NGR 21-002-399	2337
32	UNIV MARYLAND-COL PK	Salomonson, V. V.	GSFC	Ragan, R. M.	NSG 5017	2349
32	UNIV MARYLAND-COL PK	Cressy, P. J.	GSFC	Sommer, S. E.	NSG 5047	2352
32	UNIV MARYLAND-COL PK	Philpotts, J. A.	GSFC	Adler, I.	NSG 5094	2358
32	UNIV MARYLAND-COL PK	Nava, D. F.	GSFC	Weidner, J. R.	NSG 5121	2360
32	UNIV MARYLAND-COL PK	Williams, R. J.	HQ-SL	Adler, I.	NSG 7046	2364
32	UNIV MARYLAND-COL PK	Alexander, D. E.	HQ-SM	Wasilewski, P.	NSG 7017	2363
32	UNIV OF MASS-AMHERST	Dwornik, S. E.	HQ-SL	McGill, G. E.	NGR 22-010-076	2540
32	UNIV OF MIAMI	French, B. M.	HQ-SL	Fisher, D. E.	NSG 7245	1946
32	UNIV MICH-ANN ARBOR	Bryson, R. P.	HQ-SM	Evans, B. J.	NGR 23-005-537	2585
32	U MINN-MNPLS-ST PAUL	Harris, J. W.	JSC	Banerjee, S. K.	NGR 24-005-248	2635
32	UNIV OF NEW MEXICO	Stuart-Alexander, D. E.	HQ-SL	Keil, K.	NGL 32-004-064	2832
32	UNIV OF NEW MEXICO	Dwornik, S. E.	HQ-SL	Elston, W. E.	NGR 32-004-062	2834
32	UNIV OF NEW MEXICO	Hanley, J. B.	HQ-SM	Elston, W. E.	NGL 32-004-011	2829
32	UNIV OF NEW MEXICO	Hanley, J. B.	HQ-SM	Elston, W. E.	NSG 7066	2839

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
32	UNIV OREGON-EUGENE	Teegarden, D. L., Jr.	JSC	Blank, H. R.	NAS 9-9690	3186
32	UNIV OREGON-EUGENE	Williams, R. J.	HQ-SL	Weill, D. F.	NGR 38-003-020	3189
32	UNIV OF PENNSYLVANIA	Kosofsky, L. J.	HQ-SM	Friel, J. J.	NSG 7031	3268
32	UNIV OF PENNSYLVANIA	Kosofsky, L. J.	HQ-SM	Friel, J. J.	NSG 7119	3269
32	UNIV OF PITTSBURGH	Williams, R. J.	HQ-SL	Hapke, B. W.	NGL 39-011-085	3280
32	UNIV OF PITTSBURGH	Williams, R. J.	HQ-SL	Hapke, B. W.	NSG 7203	3292
32	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Barker, W. A.	NCA 2-685408	1676
32	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Barker, W. A.	NCA 2-685606	1688
32	UNIV OF SANTA CLARA	Reynolds, R. T.	ARC	Barker, W. A.	NCA 2-685701	1691
32	UNIV OF SANTA CLARA	Quaide, W. L.	ARC	Greeley, R.	NGR 05-017-027	1693
32	UNIV OF SANTA CLARA	Dwornik, S. E.	HQ-SL	Greeley, R.	NGR 05-017-037	1696
32	UNIV OF SANTA CLARA	Williams, R. J.	HQ-SL	Greeley, R.	NSG 7141	1702
32	UNIV SO CAROLINA-COL	Dwornik, S. E.	HQ-SL	Nummedal, D.	NSG 7076	3312
32	UNIV TEXAS-AUSTIN	Kolenkiewicz, R.	GSFC	Tapley, B. D.	NGR 44-012-283	3508
32	UNIV TEXAS-AUSTIN	Eichelman, W. F.	JSC	Duennebier, F. D.	NAS 9-14405	3487
32	UNIV TEXAS-AUSTIN	Harris, J. W.	JSC	Gose, W. A.	NSG 9021	3520
32	UNIV TEXAS-AUSTIN	Stanley, H. R.	WFC	Tapley, B. D.	NAS 6-2454	3482
32	UNIV TEXAS-AUSTIN	Strickland, A. T.	HQ-SL	Smith, H. J.	NGR 44-012-165	3496
32	UNIV TEXAS-AUSTIN	Dwornik, S. E.	HQ-SL	Ingerson, F. E.	NGR 44-012-194	3497
32	UNIV TEXAS-AUSTIN	Young, R. S.	HQ-SL	Parker, P. L.	NGR 44-012-225	3500
32	UNIV TEXAS-AUSTIN	Dwornik, S. E.	HQ-SL	Devaucouleurs, G. H.	NGR 44-012-279	3506
32	UNIV TEXAS-AUSTIN	Smith, M. J.	HQ-SL	Muehlberger, W. R.	NSG 7250	3519
32	UNIV TEXAS-AUSTIN	Bryson, R. P.	HQ-SM	Clabaugh, S. E.	NGL 44-012-045	3492
32	UNIV OF UTAH	Broderick, J. C.	GSFC	Nackowski, M.	NAS 5-20955	3558
32	UNIV OF UTAH	Harris, J. W.	JSC	Nash, W. P.	NSG 9024	3572
32	UNIV OF UTAH	Dwornik, S. E.	HQ-SL	Wilson, R. C.	NGR 45-003-095	3567
32	UNIV OF UTAH	Bryson, R. P.	HQ-SM	Ward, S. H.	NSG 7090	3570
32	UNIV OF VIRGINIA	Dwornik, S. E.	HQ-SL	Howard, A.	NGR 47-005-172	3669
32	UNIV OF VIRGINIA	French, B. M.	HQ-SL	Allen, R. O.	NGR 47-005-176	3670
32	UNIV OF WASHINGTON	Horz, F.	JSC	Brownlee, D. E.	NAS 9-13743	3740
32	UNIV OF WASHINGTON	Harris, J. W.	JSC	Adams, J. D.	NSG 9032	3763
32	UNIV OF WASHINGTON	Dwornik, S. E.	HQ-SL	Vgolihi, F. C.	NGR 48-002-153	3755
32	UNIV OF WASHINGTON	Williams, R. J.	HQ-SL	Adams, J. B.	NSG 7173	3761
32	UNIV OF WASHINGTON	Williams, R. J.	HQ-SL	Adams, J. B.	NSG 7174	3762
32	UNIV WISC-MADISON	Williams, R. J.	HQ-SL	Taylor, J. W.	NSG 7215	3805
32	UNIV WISC-PARKSIDE	Dwornik, S. E.	HQ-SL	Smith, E. I.	NGR 50-009-001	3807
32	UTAH STATE UNIV	Young, R. S.	HQ-SB	Swanson, L. W.	NSG 7038	3576
32	VIRGINIA POLY INST	Dwornik, S. E.	HQ-SL	Gilbert, C.	NSG 7111	3732
32	WASHINGTON UNIVERSTY	Kelly Iv, W. L.	LARC	Arvidson, R. E.	NSG 1084	2714
32	WASHINGTON UNIVERSTY	Dwornik, S. E.	HQ-SL	Arvidson, R. E.	NSG 7087	2717
32	WASHINGTON UNIVERSTY	Stuart-Alexander, D. E.	HQ-SM	Hohenberg, C. M.	NSG 7016	2716
32	WEST TEXAS ST UNIV	Dwornik, S. E.	HQ-SL	Underwood, J. R.	NGR 44-015-003	3550
32	YALE UNIVERSITY	Dwornik, S. E.	HQ-SL	Skinner, B. J.	NGR 07-004-157	1827
32	YALE UNIVERSITY	Williams, R. J.	HQ-SL	Turekian, K. K.	NGR 07-004-166	1828
33	CAL STATE U-HAYWARD	Zill, L. P.	ARC	Warnke, D. A.	NCA 2-290601	1260
33	CHESAPEAKE COLLEGE	Exton, R. J.	LARC	Paul, F. W.	NSG 1096	2273
33	CITY COLLEGE OF N Y	Mueller, J. L.	GSFC	Pierson, W. J.	NAS 5-22392	2847
33	COLUMBIA UNIVERSITY	Stanley, H. R.	WFC	Kuo, J. T.	NAS 6-2455	2870
33	JOHNS HOPKINS UNIV	Stanley, H. R.	WFC	Phillips, O. M.	NAS 6-2706	2280
33	NO CAROLINA STATE U	Stanley, H. R.	WFC	Hiser, H. W.	NAS 6-2617	3057
33	OREGON STATE UNIV	Mueller, J. L.	GSFC	Zuneveld, R. V.	NAS 5-22319	3180
33	UNIV ALASKA-FAIRBNKS	Crump, E.	GSFC	Stringer, W.	NAS 5-20959	1085
33	UNIV CALIF-L ANGELES	Stanley, H. R.	WFC	Kaula, W. M.	NAS 6-2463	1540
33	UNIV CALIF-L ANGELES	Stanley, H. R.	WFC	Mintz, Y.	NAS 6-2703	1541
33	UNIV CALIF-S BARBARA	Hovis, W. A.	GSFC	Estes, J. E.	NSG 5106	1659
33	UNIV CALIF-S BARBARA	Nitschke, H. A.	JSC	Simonett, D. S.	NAS 9-14816	1654
33	UNIV OF DELAWARE	Crump, E. W.	GSFC	Klemas, V.	NAS 5-20983	1831
33	UNIV MARYLAND-COL PK	Marini, J. W.	GSFC	Harger, R. O.	NGR 21-002-433	2340

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
39	ADELPHI UNIVERSITY	Tarlton, M. J.	GSFC	Dooher, J. P.	NAS 5-22529	2841
39	ALABAMA A&M UNIV	McDonough, G. F.	MSFC	Manger, M. C.	NGR 01-001-025	1003
39	ALCORN STATE UNIV	Wolverton, B. C.	NSTL	Naqvi, S. M.	NSG 8005	2651
39	AMERICAN UNIVERSITY	Schubert, J.	GSFC	MacLeod, N. H.	NAS 5-21970	1835
39	AMERICAN UNIVERSITY	Johnson, R. W.	LARC	Anderson, R. R.	NAS 1-12209	1834
39	BETHUNE-COOKMAN COL	Hammond, T. M.	KSC	Poonai, P.	NGR 10-022-001	1897
39	BRIGHAM YOUNG UNIV	Cauffman, D. P.	HQ-ST	Jones, D. E.	NGR 45-001-011	3553
39	BROWN UNIVERSITY	Maestrello, L.	LARC	Liu, J. T.	NSG 1076	3299
39	CALIF INST OF TECH	Lowman, P. D.	GSFC	Allen, C. R.	NSG 5058	1234
39	CALIF INST OF TECH	Williams, T. S., Jr.	LARC	Anderson, D. L.	NAS 1-9703	1186
39	CLEMSON UNIV-CLEMSON	Barnett, T. L.	JSC	Haun, J. R.	NAS 9-14006	3305
39	COLORADO SCH OF MINE	Morrison, J. R.	HQ-ER	Lee, K.	NGL 06-001-015	1720
39	COLORADO STATE UNIV	Nelson, D.	GSFC	Vonder Haar, T. H.	NAS 5-22959	1724
39	COLORADO STATE UNIV	Barnett, T. L.	JSC	Smith, J. A.	NAS 9-14467	1732
39	COLORADO STATE UNIV	Turner, R. E.	MSFC	Sadeh, W. Z.	NAS 8-28590	1725
39	CORNELL UNIVERSITY	Vitale, J. A.	HQ-P	Liang, T.	NGL 33-010-171	2910
39	DC TEACHERS COLLEGE	Westrom, J. L.	GSFC	Bever, R. S.	NGR 09-053-003	1845
39	DARTMOUTH COLLEGE	Jastrow, R.	GSFC	Huke, R. E.	NSG 5014	2734
39	DILLARD UNIVERSITY	Paludan, C. T.	MSFC	Rogers, R.	NSG 8018	2237
39	DREXEL UNIVERSITY	Rogowski, R. S.	LARC	Bandy, A. R.	NSG 1240	3207
39	FEDERAL CITY COLLEGE	Nava, D. E.	GSFC	Phelps, H. L.	NGR 09-050-019	1851
39	FLORIDA A&M UNIV	Schehl, T. A.	KSC	Cottrell, P. T.	NGR 10-010-002	1898
39	FLORIDA INST OF TECH	Lee, W. H.	KSC	Weber, H. P.	NGR 10-015-008	1904
39	FLORIDA TECH UNIV	Burton, R.	KSC	Osborne, J.	NAS10-8934	1911
39	FLORIDA TECH UNIV	Buchanan, P.	KSC	Vickers, D. H.	NAS10-8986	1912
39	FLORIDA TECH UNIV	Lee, W. H.	KSC	Sweet, H. C.	NGR 10-019-004	1913
39	FLORIDA TECH UNIV	Lee, W. H.	KSC	St John, R.	NGR 10-019-009	1914
39	GEORGIA INST OF TECH	Paludan, C. T.	MSFC	Dees, J. W.	NAS 8-30653	1972
39	GEORGIA INST OF TECH	Downs, S. W., Jr.	MSFC	Faust, N. L.	NAS 8-31850	1977
39	HOWARD UNIVERSITY	Pohly, J. G.	HQ-P	Ferguson, G. A.	NGL 09-011-046	1880
39	JACKSON STATE UNIV	Wolverton, B. C.	MSFC	Sekhon, B. S.	NGR 25-011-005	2653
39	JACKSON STATE UNIV	Wolverton, B. C.	MSFC	Perkins, J.	NSG 8015	2655
39	JACKSON STATE UNIV	Wolverton, B. C.	MSFC	Sekhon, B. S.	NSG 8023	2656
39	JACKSON STATE UNIV	Wolverton, B. C.	NSTL	Shore, F.	NSG 8026	2657
39	JACKSON STATE UNIV	Joyce, A. T.	NSTL	Nelson, F. R.	NSG 9016	2658
39	KANSAS STATE UNIV	Zill, L. P.	ARC	Ahmed, N.	NCA 2-363601	2183
39	KANSAS STATE UNIV	Barnett, T. L.	JSC	Feyerherm, A. M.	NAS 9-14533	2180
39	LA STATE U-BAT ROUGE	Paludan, C. T.	MSFC	Maples, D.	NAS 8-30620	2244
39	LA STATE U-BAT ROUGE	Redding, E. R.	HQ-P	Whitehurst, C. A.	NGL 19-001-097	2246
39	LA STATE U-BAT ROUGE	Vitale, J. A.	HQ-P	Whitehurst, C. A.	NGL 19-001-105	2247
39	MASS INST OF TECH	Williams, T. S., Jr.	LARC	Biemann, K.	NAS 1-9684	2414
39	MICHIGAN STATE UNIV	Vitale, J. A.	HQ-P	Boylan, M. G.	NGL 23-004-083	2544
39	MISSISSIPPI STATE U	Daniels, J. L., Jr	MSFC	Miller, W. F.	NAS 8-30623	2661
39	MISSISSIPPI STATE U	Redding, E. R.	HQ-P	Brown, L. R.	NGL 25-001-040	2668
39	MISSISSIPPI STATE U	Vitale, J. A.	HQ-P	Miller, W. F.	NGL 25-001-054	2669
39	NEW YORK UNIVERSITY	McLean, F. E.	LARC	Hoffert, M. I.	NSG 1298	2950
39	NEW YORK UNIVERSITY	Neustadter, H. E.	LERC	Hoydysh, W. G.	NGR 33-016-197	2947
39	NO CAROLINA STATE U	Paludan, C. T.	MSFC	Welby, G.	NAS 8-31984	3058
39	OHIO STATE UNIV	Hirschmann, E.	GSFC	Founty, R. A.	NAS 5-20521	3111
39	OHIO STATE UNIV	Zwally, H. J.	GSFC	Rayner, J. N.	NAS 5-23380	3114
39	OLD DOMINION UNIV	Fuller, W. H., Jr.	LARC	Harris, F. S., Jr.	NSG 1245	3647
39	OREGON STATE UNIV	Vitale, J. A.	HQ-P	Schrumpf, B. J.	NGL 38-002-053	3184
39	PAN AMERICAN UNIV	Potter, A. E.	JSC	Lemaster, E. W.	NSG 9033	3378
39	PENN STATE U-UNIV PK	Szajna, E. F.	GSFC	McMurtry, G. J.	NAS 5-23133	3230
39	PRAIRIE VIEW A&M U	Potter, A. E.	JSC	Sohel, M. S.	NSG 9006	3380
39	PURDUE UNIVERSITY	Joosten, R. E.	JSC	Hoffer, R. M.	NAS 9-13380	2119
39	PURDUE UNIVERSITY	Potter, A. E.	JSC	Landgrebe, D. A.	NAS 9-14016	2120
39	PURDUE UNIVERSITY	Grandfield, A. L.	JSC	Landgrebe, D. A.	NAS 9-14970	2121

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
39	PURDUE UNIVERSITY	Maurer, H. E.	WFC	Phillips, T. L.	NAS 6-2613	2117
39	PURDUE UNIVERSITY	Maurer, H. E.	WFC	Phillips, T. L.	NAS 6-2695	2118
39	PURDUE UNIVERSITY	Vitale, J. A.	HQ-P	Weismiller, R. A.	NGL 15-005-186	2125
39	SAVANNAH STATE COL	Perkins, E. E.	KSC	Ghuman, G. S.	NSG 803	2011
39	SO DAKOTA STATE UNIV	Vitale, J. A.	HQ-P	Myers, V. I.	NGL 42-003-007	3316
39	STATE UNIV NY-ALBANY	Baraona, C. R.	LERC	Corbett, J. W.	NSG 3095	2992
39	STATE UNIV NY-ALBANY	Weinberg, J. L.	MSFC	Schuerman, D. W.	NAS 8-31902	2990
39	STATE U NY-STONY BRK	Williams, T. S., Jr.	LARC	Owens, T.	NAS 1-10493	3004
39	STATE U NY-STONY BRK	Gordon, S.	LERC	Berlad, A. L.	NGR 33-015-163	3013
39	TEXAS A&M UNIVERSITY	Gordon, F.	GSFC	Harwood, P.	NAS 5-22534	3406
39	TEXAS A&M UNIVERSITY	Schmugge, T.	GSFC	Blanchard, B. J.	NAS 5-23458	3409
39	TEXAS A&M UNIVERSITY	Buras, N. T.	JSC	Rouse, J. W., Jr.	NAS 9-13904	3419
39	TEXAS A&M UNIVERSITY	Potter, A. E.	JSC	Rouse, J. L.	NAS 9-14197	3420
39	TEXAS A&M UNIVERSITY	Barnett, T. L.	JSC	Harlan, C.	NAS 9-14470	3421
39	TEXAS A&M UNIVERSITY	Blanchard, D.	JSC	Randall, J. D.	NAS 9-14828	3428
39	TEXAS A&M UNIVERSITY	Mason, C. C.	JSC	Blanchard, B. J.	NAS 9-14898	3430
39	TEXAS A&M UNIVERSITY	Vitale, J. A.	HQ-P	Rouse, J. W., Jr.	NGL 44-001-001	3433
39	UNIV ALA-HUNTSVILLE	Gravette, M. C.	MSFC	Schroer, B. J.	NAS 8-30885	1053
39	UNIV ALA-HUNTSVILLE	West, G. S., Jr.	MSFC	Hung, R. J.	NAS 8-31171	1056
39	UNIV ALASKA-FAIRBNKS	Oseroff, H.	GSFC	Lent, P.	NAS 5-20915	1084
39	UNIV ALASKA-FAIRBNKS	Vitale, J. A.	HQ-P	Miller, J. M.	NGL 02-001-092	1089
39	UNIV OF ARIZONA	Vitale, J. A.	HQ-P	Johnson, J. D.	NGL 03-002-313	1136
39	UNIV ARKANSAS-FAYETV	Szajna, E. F.	GSFC	MacDonald, H.	NAS 5-20810	1174
39	UNIV CALIF-BERKELEY	Wrigley, R. C.	ARC	Horne, A. J.	NSG 2003	1493
39	UNIV CALIF-BERKELEY	Wood, R. D.	ARC	Laporte, T.	NSG 2160	1502
39	UNIV CALIF-BERKELEY	Forbes, C. D.	JSC	Colwell, R. N.	NAS 9-14419	1450
39	UNIV CALIF-BERKELEY	Patteson, A. W.	JSC	Lauer, D.	NAS 9-14452	1451
39	UNIV CALIF-BERKELEY	Garcia, J. G.	JSC	Colwell, R. N.	NAS 9-14565	1452
39	UNIV CALIF-BERKELEY	Vitale, J. A.	HQ-P	Colewell, R. N.	NGL 05-003-404	1471
39	UNIV CALIF-BERKELEY	Vitale, J. A.	HQ-P	Colwell, R. N.	NSG 7220	1510
39	UNIV CALIF-BERKELEY	Williams, R. J.	HQ-SL	Anderson, K. A.	NSG 7127	1506
39	UNIV CALIF-DAVIS	Salomonson, V. V.	GSFC	Algazi, V. R.	NSG 5092	1528
39	UNIV CALIF-L ANGELES	Cauffman, D. P.	HQ-ST	Coleman, P. J., Jr.	NGL 05-007-004	1555
39	UNIV CALIF-L ANGELES	Cauffman, D. P.	HQ-ST	Siscoe, G. L.	NSG 7180	1590
39	UNIV CALIF-SAN DIEGO	Carpenter, L.	GSFC	Berger, J.	NGR 05-009-246	1630
39	UNIV CALIF-S CRUZ	Harris, J. W.	JSC	Papike, J. J.	NSG 9034	1663
39	UNIV COLORADO-BOLDR	Fichtl, G. H.	MSFC	Toomre, J.	NAS 8-31958	1771
39	UNIV COLORADO-BOLDR	Vitale, J. A.	HQ-P	Ives, J. D.	NGL 06-003-200	1776
39	UNIV OF CONNECTICUT	Schweickart, R. L.	HQ-EK	Baldwin, R. C., Jr.	W-14061	1822
39	UNIV OF DAYTON	Stevenson, S. M.	LERC	Martino, J.	NAS 3-20365	3148
39	UNIV OF DELAWARE	Johnson, R. W.	LARC	Klemas, V.	NAS 1-12304	1830
39	UNIV OF DELAWARE	Collins, V. G.	LARC	Klemas, V.	NSG 1149	1832
39	UNIV OF FLORIDA	Toft, P. D.	KSC	Bartholic, J. F.	NAS10-8774	1918
39	UNIV OF FLORIDA	Toft, P. D.	KSC	Bartholic, J. F.	NAS10-8920	1919
39	UNIV OF FLORIDA	Vitale, J. A.	HQ-P	Brooks, H. K.	NSG 7236	1933
39	UNIV HOUSTON-HOUSTON	Williams, T. S., Jr.	LARC	Oro, J.	NAS 1-9685	3444
39	UNIV OF KANSAS	Shiue, J. C.	GSFC	Moore, R. K.	NAS 5-22384	2190
39	UNIV OF KANSAS	Hatcher, N. M.	JSC	Ulaby, F. T.	NAS 9-10261	2191
39	UNIV OF KANSAS	Buras, N. T.	JSC	Ulaby, F. T.	NAS 9-14052	2192
39	UNIV OF KANSAS	Patteson, A. W.	JSC	Haralick, R. M.	NAS 9-14453	2193
39	UNIV OF KANSAS	Vitale, J. A.	HQ-P	Barr, B. G.	NGL 17-004-024	2194
39	UNIV OF KENTUCKY	Palupan, C. T.	MSFC	Graves, D. H.	NAS 8-31006	2225
39	UNIV MARYLAND-COL PK	Trombka, J. I.	GSFC	Sommer, S. E.	NAS 5-23457	2307
39	UNIV MARYLAND-COL PK	Hoell, J. M.	LARC	Davis, D. D.	NSG 1075	2344
39	UNIV MARYLAND-COL PK	Alfonsi, P. J.	WFC	Harmon, D. M.	NSG 6001	2361
39	UNIV OF MASS-AMHERST	Szajna, E. F.	GSFC	Smith, H. P.	NAS 5-21871	2535
39	UNIV OF MIAMI	Bland, R. A.	KSC	Hirschberg, J. G.	NAS10-8600	1937
39	UNIV OF MIAMI	Bland, R. A.	KSC	Veziroglu, T. N.	NAS10-8740	1938

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
39	UNIV OF MIAMI	Bland, R. A.	KSC	Hirschberg, J. G.	NAS10-8795	1939
39	UNIV OF MIAMI	Bland, R. A.	KSC	Lee, S. S.	NAS10-8926	1940
39	UNIV OF MIAMI	Bland, R. A.	KSC	Hirschberg, J. G.	NAS10-8954	1941
39	U MINN-MNPLS-ST PAUL	Vitale, J. A.	HQ-P	Shepherd, W. G.	NGL 24-005-263	2631
39	U MINN-MNPLS-ST PAUL	Cauffman, D. P.	HQ-ST	Winckler, J. R.	NSG 7005	2645
39	UNIV MO-COLUMBIA	Paludan, C. T.	MSFC	Barr, P. J.	NAS 8-31767	2691
39	UNIV OF MONTANA	Sebesta, P. D.	ARC	Craighead, J. J.	NSG 2030	2720
39	UNIV NEBRASKA-LINCLN	Vitale, J. A.	HQ-P	Carlson, M. P.	NGL 28-004-020	2725
39	UNIV SO MISSISSIPPI	Vitale, J. A.	HQ-P	Pinson, J. W.	NGL 25-005-007	2681
39	UNIV TENNESSEE-KNOXV	Escue, W. T.	MSFC	Rehder, J. B.	NAS 8-31143	3334
39	UNIV TENNESSEE-KNOXV	Paludan, C. T.	MSFC	Shahroki, F.	NAS 8-31980	3336
39	UNIV OF UTAH	Lawton, B. W.	LARC	Shepherd, K. P.	NSG 1272	3569
39	UNIV OF UTAH	Tuttle, F. B.	HQ-FE	Ridd, M. K.	NASW 2648	3563
39	UNIV OF UTAH	Vitale, J. A.	HQ-P	Ridd, M. K.	NSG 7226	3571
39	UNIV OF VIRGINIA	Crump, E. W.	GSFC	Dolan, R.	NAS 5-20999	3664
39	UNIV WISC-MADISON	Vitale, J. A.	HQ-P	Clapp, J. L.	NGL 50-002-127	3791
39	VIRGINIA POLY INST	Scott, J. H.	WFC	Pettry, D. E.	NAS 6-2388	3695
39	WASHINGTON UNIVERSTY	Williams, T. S., Jr.	LARC	Arvidson, R. E.	NAS 1-13889	2705
41	ARIZONA STATE UNIV	Gaunter, J. W.	LERC	Metzger, D. E.	NSG 3075	1096
41	AUBURN UNIV-AUBURN	Duncan, J. R., Jr.	MSFC	Bennett, A. G.	NAS 8-30248	1020
41	BOSTON UNIVERSITY	Yates, E. C., Jr.	LARC	Morino, L.	NGR 22-004-030	2375
41	CALIF INST OF TECH	Olson, L. E.	ARC	Coles, D. E.	NGL 05-002-229	1212
41	CALIF INST OF TECH	Davis, R. C.	LARC	Babcock, C. D., Jr.	NSG 1005	1232
41	CALIF INST OF TECH	Sandercock, D. M.	LERC	Rannie, W. D.	NGL 05-002-136	1206
41	CAL STATE U-CHICO	Zill, L. P.	ARC	Huntsinger, R.	NCA 2-110502	1251
41	CAL STATE U-CHICO	Zill, L. P.	ARC	Sours, C. F.	NCA 2-110504	1252
41	CAL STATE U-LG BEACH	Carr, L. W.	ARC	Cebeci, T.	NAS 1-13656	1262
41	CAL STATE U-LG BEACH	Young, W. H., Jr.	LARC	Cebeci, T.	NAS 1-14276	1263
41	CASE WESTERN RESERVE	Bishop, A. R.	LERC	Reshotko, E.	NGR 36-027-064	3086
41	CASE WESTERN RESERVE	Bober, L. J.	LERC	Reshotko, E.	NSG 3058	3093
41	CASE WESTERN RESERVE	Sockol, P. M.	LERC	Reshotko, E.	NSG 3062	3094
41	CASE WESTERN RESERVE	Anderson, B. H.	LERC	Lynch, W. C.	NSG 3115	3099
41	CATHOLIC UNIVERSITY	Deissler, R. G.	LERC	Ling, S. C.	NGR 09-005-099	1839
41	CHRISTPHR NEWPRT COL	Morris, G. J.	LARC	Roby, A. B.	NAS 1-13423	3580
41	CHRISTPHR NEWPRT COL	Jewel, J. W., Jr.	LARC	Unavailable	NAS 1-13913	3581
41	CHRISTPHR NEWPRT COL	Morris, G. J.	LARC	Roby, A. B.	NAS 1-14034	3582
41	CITY COLLEGE OF N Y	Montgomery, R. C.	LARC	Mekel, R.	NSG 1169	2854
41	CLEMSON UNIV-CLEMSON	Abel, I.	LARC	Rudisill, C. S.	NSG 1125	3306
41	COLORADO STATE UNIV	Zill, L. P.	ARC	Sandborn, V. A.	NCA 2-165502	1734
41	COLORADO STATE UNIV	Thekaekara, M. P.	GSFC	Vonder Haar, T. H.	NAS 5-22372	1723
41	COLUMBIA UNIVERSITY	Mixson, J. S.	LARC	Vaicaitis, R.	NSG 1059	2885
41	CORNELL UNIVERSITY	Marek, C. J.	LERC	Gouldin, F. C.	NSG 3019	2928
41	CORNELL UNIVERSITY	Chamis, C. C.	LERC	Moon, F. C.	NSG 3080	2929
41	GEORGE WASHINGTON U	Margolis, K.	LARC	Liebowitz, H.	NGR 09-010-064	1859
41	GEORGE WASHINGTON U	Mulac, R. W.	LARC	Liebowitz, H.	NGR 09-010-074	1860
41	GEORGE WASHINGTON U	Anderson, R. A.	LARC	Liebowitz, H.	NGR 09-010-078	1861
41	GEORGE WASHINGTON U	Margolis, K.	LARC	Liebowitz, H.	NGR 09-010-085	1862
41	GEORGE WASHINGTON U	Suit, W. T.	LARC	Liebowitz, H.	NSG 1161	1867
41	GEORGE WASHINGTON U	McKinney, L. W.	LARC	Liebowitz, H.	NSG 1246	1871
41	GEORGIA INST OF TECH	Peterson, J. P.	LARC	Horton, W. H.	NGL 11-002-096	1981
41	GEORGIA INST OF TECH	Eggers, J. M.	LARC	Bangert, L. H.	NGR 11-002-177	1984
41	GEORGIA INST OF TECH	Weston, R. P.	LARC	McMahon, H. M.	NSG 1257	1987
41	GEORGIA INST OF TECH	Feiler, C. E.	LERC	Zinn, B. T.	NSG 3036	1992
41	HAMPTON INSTITUTE	Jewel, J. W., Jr.	LARC	Williams, G. K.	NAS 1-12445	3592
41	HAMPTON INSTITUTE	Jewel, J. W., Jr.	LARC	Williams, G. K.	NAS 1-14507	3593
41	HARVEY MUDD COLLEGE	Orloff, K.	ARC	Woodson, T. T.	NAS 2-8925	1269
41	HOWARD UNIVERSITY	Martz, C. W.	LARC	Bainum, P. M.	NSG 1181	1887
41	ILL INST OF TECH	Beckwith, I. E.	LARC	Nagib, H. M.	NSG 1120	2035

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
41	ILL INST OF TECH	Starnes, J. H., Jr	LARC	Haftka, R. T.	NSG 1266	2036
41	IOWA STATE UNIV	Zill, L. P.	ARC	Cook, W. J.	NCA 2-340406	2150
41	IOWA STATE UNIV	Zill, L. P.	ARC	Anderson, D. A.	NCA 2-340503	2153
41	IOWA STATE UNIV	Zill, L. P.	ARC	Anderson, D. A.	NCA 2-340505	2155
41	IOWA STATE UNIV	Zill, L. P.	ARC	Cook, W. J.	NCA 2-340506	2156
41	IOWA STATE UNIV	Rakich, J. V.	ARC	Tannehill, J. C.	NGR 16-002-038	2161
41	IOWA STATE UNIV	Rossow, V. J.	ARC	Iversen, J. D.	NSG 2040	2162
41	IOWA STATE UNIV	Chapman, G. T.	ARC	James, W. D.	NSG 2091	2163
41	IOWA STATE UNIV	Chapman, G. T.	ARC	Herget, C. J.	NSG 2150	2164
41	IOWA STATE UNIV	Presley, L. L.	ARC	Cook, W. J.	NSG 2152	2165
41	IOWA STATE UNIV	Sockol, P. M.	LERC	Serovy, G. K.	NSG 3033	2166
41	ISRAEL INST OF TECH	Dixon, S. C.	LARC	Haftka, R. T.	NGR 52-012-008	3820
41	ISRAEL INST OF TECH	Abel, I.	LARC	Nissim, E.	NSG 7072	3821
41	ISRAEL INST OF TECH	Bush, H. G.	LARC	Weller, T.	NSG 7083	3822
41	LEHIGH UNIVERSITY	Deets, D. A.	DFRC	Johnson, S. H.	NSG 4005	3223
41	LEHIGH UNIVERSITY	Deets, D. A.	DFRC	Johnson, S. H.	NSG 4010	3224
41	MASS INST OF TECH	Rabbott, J. P., Jr.	ARC	Ham, N. D.	NAS 2-7262	2417
41	MASS INST OF TECH	Rabbott, J. P., Jr.	ARC	Faulkner, H. B.	NAS 2-7620	2418
41	MASS INST OF TECH	Wempe, T. E.	ARC	Curry, R. E.	NGR 22-009-733	2476
41	MASS INST OF TECH	Rabbott, J. P., Jr.	ARC	Harris, W. L.	NSG 2095	2501
41	MASS INST OF TECH	Williams, L. J.	ARC	Taneja, N. K.	NSG 2129	2503
41	MASS INST OF TECH	Rabbott, J. P., Jr.	ARC	Widnall, S. E.	NSG 2142	2504
41	MASS INST OF TECH	Szalai, K. J.	DFRC	Whitaker, H. D.	NGL 22-009-548	2454
41	MASS INST OF TECH	Gloersen, P.	GSFC	Staelin, D. H.	NAS 5-22929	2429
41	MASS INST OF TECH	Reid, H. J., Jr.	LARC	Simpson, R. W.	NGL 22-009-640	2456
41	MASS INST OF TECH	Queijo, M. J.	LARC	Young, L. R.	NGR 22-009-701	2471
41	MASS INST OF TECH	Rhodes, M. D.	LARC	Mar, J. W.	NGR 22-009-781	2481
41	MASS INST OF TECH	Hoad, D. R.	LARC	Widnall, S. E.	NGR 22-009-818	2487
41	MASS INST OF TECH	Gera, J.	LARC	Athans, M.	NSG 1018	2490
41	MASS INST OF TECH	Montgomery, R. C.	LARC	Willsky, A. S.	NSG 1112	2492
41	MASS INST OF TECH	Bland, S. R.	LARC	Harris, W. L.	NSG 1219	2495
41	MASS INST OF TECH	Boyden, R. P.	LARC	Covert, E. E.	NSG 1292	2496
41	MASS INST OF TECH	McNally, W. D.	LERC	Kerrebrock, J. L.	NGL 22-009-383	2452
41	MASS INST OF TECH	Siewert, R. D.	LERC	Witmer, E. A.	NGR 22-009-339	2460
41	MASS INST OF TECH	Baumeister, K. J.	LERC	Ingard, K. U.	NGR 22-009-805	2486
41	MASS INST OF TECH	Norgren, C. T.	LERC	Keck, J. C.	NSG 3076	2510
41	MASS INST OF TECH	Adamczyk, J. J.	LERC	Kerrebrock, J. L.	NSG 3079	2511
41	MASS INST OF TECH	McNally, W. D.	LERC	Kerrebrock, J. L.	NSG 3093	2513
41	MICHIGAN STATE UNIV	Hardin, J. C.	LARC	Foss, J. F.	NGR 23-004-091	2545
41	MICHIGAN STATE UNIV	Hefner, J. N.	LARC	Foss, J. F.	NSG 1138	2546
41	MISSISSIPPI STATE U	Bobbitt, P. J.	LARC	Thompson, J. F.	NGR 25-001-055	2671
41	MISSISSIPPI STATE U	Hall, A. W.	LARC	Cross, E. J., Jr.	NSG 1083	2672
41	MISSISSIPPI STATE U	Hall, A. W.	LARC	Cross, E. J., Jr.	NSG 1231	2673
41	MISSISSIPPI STATE U	Harris, R. L.	LARC	Bennett, A. G., Jr.	NSG 1249	2675
41	MISSISSIPPI STATE U	Gera, J.	LARC	Bennett, A. G.	NSG 1284	2676
41	MISSISSIPPI STATE U	Guynes, B. U.	MSFC	Mitchell, G.	NAS 8-31568	2663
41	MISSISSIPPI STATE U	Clever, W. W.	MSFC	Shepard, W. S.	NAS 8-31770	2664
41	NEW MEX ST U-LAS CR	Monroe, R.	HQ-U	Alba, A.	NASW 2928	2806
41	NEW YORK UNIVERSITY	Hicks, R. M.	ARC	Garabedian, P. R.	NGR 33-016-201	2948
41	NEW YORK UNIVERSITY	Fetterman, D. E.	LARC	Ferri, A.	NGL 33-016-119	2943
41	NEW YORK UNIVERSITY	Huber, P. W.	LARC	Zakkay, V.	NGR 33-016-131	2944
41	NEW YORK UNIVERSITY	Liu, C. H.	LARC	Ting, L.	NSG 1291	2949
41	NEW YORK UNIVERSITY	Stallings, R. L.	LARC	Zakkay, V.	NSG 1303	2951
41	NO CAROLINA STATE U	Crane, H. L.	LARC	Smetana, F. O.	NSG 1077	3065
41	NO CAROLINA STATE U	Walberg, G. D.	LARC	Dejarnette, F. R.	NSG 1287	3071
41	NORTHWESTERN UNIV	Williams, L. J.	ARC	Spencer, F. A.	NSG 2149	2047
41	OHIO STATE UNIV	Barnwell, R. W.	LARC	Gregorek, G. M.	NAS 1-14406	3109
41	OHIO STATE UNIV	Hall, A. W.	LARC	Gregorek, G. M.	NSG 1184	3127

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
41	OLD DOMINION UNIV	Gentry, G. L., Jr.	LARC	Ousterhout, D. S.	NGL 47-003-039	3610
41	OLD DOMINION UNIV	Anderson, A. F.	LARC	Roberts, A. S., Jr.	NGR 47-003-052	3614
41	OLD DOMINION UNIV	Hefner, J. N.	LARC	Goglia, G. L.	NSG 1087	3627
41	OLD DOMINION UNIV	Harris, J. E.	LARC	Cooke, C. H.	NSG 1098	3628
41	OLD DOMINION UNIV	Hefner, J. N.	LARC	Ash, R. L.	NSG 1100	3629
41	OLD DOMINION UNIV	McKinney, L. W.	LARC	Goglia, G. L.	NSG 1135	3633
41	OLD DOMINION UNIV	Kershner, D. D.	LARC	Barna, P. S.	NSG 1143	3634
41	OLD DOMINION UNIV	Davis, J. G., Jr.	LARC	Hyer, M. W.	NSG 1167	3637
41	OLD DOMINION UNIV	Harris, J. E.	LARC	Goglia, G. L.	NSG 1226	3643
41	OLD DOMINION UNIV	Adelman, H. M.	LARC	Thornton, E. A.	NSG 1237	3645
41	OLD DOMINION UNIV	Adelman, H. M.	LARC	Goglia, G. L.	NSG 1260	3651
41	OLD DOMINION UNIV	Coe, P. L., Jr.	LARC	Goglia, G. L.	NSG 1309	3655
41	OLD DOMINION UNIV	Bobbitt, P. J.	LARC	Goglia, G. L.	NSG 1311	3656
41	OLD DOMINION UNIV	Peterson, J. B., Jr.	LARC	Goglia, G. L.	NSG 1315	3657
41	OLD DOMINION UNIV	Hunt, L. R.	LARC	Keshock, E. G.	NSG 1318	3658
41	PENN STATE U-UNIV PK	Heyson, H. H.	LARC	Eisenhuth, J. J.	NGL 39-009-172	3241
41	PENN STATE U-UNIV PK	Fisher, B. D.	LARC	McCormick, B. W.	NSG 1308	3251
41	PENN STATE U-UNIV PK	Heidmann, M. F.	LERC	Lakshminarayana, B.	NAS 3-17855	3227
41	PENN STATE U-UNIV PK	Britsch, W. R.	LERC	Holl, J. W.	NGL 39-009-001	3235
41	PENN STATE U-UNIV PK	Britsch, W. R.	LERC	Lakshminarayana, B.	NGL 39-009-007	3238
41	PENN STATE U-UNIV PK	Stone, J. R.	LERC	Arndt, R. E.	NGR 39-009-270	3246
41	PENN STATE U-UNIV PK	Heidmann, M. F.	LERC	Lakshminarayana, B.	NSG 3012	3253
41	PENN STATE U-UNIV PK	Sanger, N. L.	LERC	Henderson, R. E.	NSG 3031	3255
41	PENN STATE U-UNIV PK	Sockol, P. M.	LERC	Lakshminarayana, B.	NSG 3032	3256
41	POLY INST OF NY	Rudy, D. H.	LARC	Rubin, S. G.	NSG 1244	2964
41	POLY INST OF NY	Salas, M. D	LARC	Moretti, G.	NSG 1248	2965
41	POLY INST OF NY	Morgan, H. L., Jr.	LARC	Krenkel, A. R.	NSG 1300	2966
41	PRINCETON UNIVERSITY	Franklin, J. A.	ARC	Seckel, E.	NAS 2-7350	2752
41	PRINCETON UNIVERSITY	Gaspers, P. A., Jr	ARC	Dowell, E. H.	NGR 31-001-197	2769
41	PRINCETON UNIVERSITY	Smith, G. A.	ARC	Dukes, T. A.	NGR 31-001-277	2773
41	PRINCETON UNIVERSITY	Horstman, C. C.	ARC	Bogdonoff, S. M.	NSG 2114	2785
41	PRINCETON UNIVERSITY	Miller, G. K., Jr.	LARC	Sockel, E.	NAS 1-13502	2751
41	PRINCETON UNIVERSITY	Mixson, J. S.	LARC	Dowell, E. H.	NGL 31-001-146	2764
41	PRINCETON UNIVERSITY	Reid, H. J., Jr.	LARC	Graham, D.	NGL 31-001-252	2765
41	PRINCETON UNIVERSITY	Crane, H. L.	LARC	Seckel, E.	NSG 1078	2779
41	PRINCETON UNIVERSITY	Crane, H. L.	LARC	Seckel, E.	NSG 1234	2781
41	PRINCETON UNIVERSITY	Mixson, J. S.	LARC	Dowell, E. H.	NSG 1253	2782
41	PRINCETON UNIVERSITY	Chamis, C. C.	LERC	Dowell, E. H.	NGR 31-001-267	2772
41	PRINCETON UNIVERSITY	Stone, J. R.	LERC	Plett, E. G.	NGR 31-001-307	2775
41	PURDUE UNIVERSITY	Zill, L. P.	ARC	Smith, C. R.	NCA 2-605501	2122
41	PURDUE UNIVERSITY	Tobak, M.	ARC	Abbott, D. E.	NSG 2135	2134
41	PURDUE UNIVERSITY	Williams, L. J.	ARC	Drake, J. W.	NSG 2158	2135
41	PURDUE UNIVERSITY	Berry, D. T.	DFRC	Swaim, R. L.	NSG 4003	2139
41	PURDUE UNIVERSITY	Landrum, E. J.	LARC	Marshall, F. J.	NGR 15-005-119	2126
41	PURDUE UNIVERSITY	Pao, S. P.	LARC	Kentzer, C. P.	NSG 1293	2133
41	PURDUE UNIVERSITY	Minner, G. L.	LERC	Vaidya, P. G.	NAS 3-18010	2113
41	PURDUE UNIVERSITY	Davison, H. W.	LERC	Lecuyer, M. R.	NGR 15-005-147	2127
41	PURDUE UNIVERSITY	Bishop, A. R.	LERC	Hoffman, J. D.	NGR 15-005-162	2129
41	PURDUE UNIVERSITY	Bishop, A. R.	LERC	Hoffman, J. D.	NGR 15-005-191	2131
41	PURDUE UNIVERSITY	Davidson, H. W.	LERC	L'ecuyer, M. R.	NSG 3071	2137
41	PURDUE UNIVERSITY	Katsanis, T.	LERC	Thompson, H. D.	NSG 3105	2138
41	RENSSELAER POLY-NY	Hood, R. V.	LARC	Kaufman, H.	NSG 1188	2982
41	RENSSELAER POLY-NY	Bill, R. C	LERC	Ling, F. F.	NGR 33-018-152	2979
41	ROSE-HULMAN INST TEC	Margason, R. J.	LARC	Roper, A. T.	NSG 1258	2142
41	ST LOUIS UNIVERSITY	Sobieszczanski, J.	LARC	Long, C. A.	NGL 26-006-021	2684
41	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Leclair, R.	NCA 2-675406	1291
41	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Neptune, J.	NCA 2-675410	1293
41	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Sharfstein, H.	NCA 2-675411	1294

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
41	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Tucker, A. B.	NCA 2-675413	1295
41	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Myronuk, D. J.	NCA 2-675505	1297
41	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Leonard, T. E.	NCA 2-675513	1302
41	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Miller, A.	NCA 2-675520	1306
41	SAN JOSE STATE UNIV	Gaspers, P. A., Jr.	ARC	Leonard, T. E.	NCA 2-675606	1312
41	STANFORD UNIVERSITY	Denery, D. G.	ARC	Debra, D. B.	NAS 2-9083	1338
41	STANFORD UNIVERSITY	Zill, L. P.	ARC	Karamcheti, K.	NCA 2-745512	1360
41	STANFORD UNIVERSITY	Zill, L. P.	ARC	Karamcheti, K.	NCA 2-745605	1374
41	STANFORD UNIVERSITY	Presley, L. L.	ARC	Kline, S. J.	NCA 2-745610	1377
41	STANFORD UNIVERSITY	Hruby, R. J.	ARC	Bredt, T. A.	NGR 05-020-699	1413
41	STANFORD UNIVERSITY	Franklin, J. A.	ARC	Debra, D. B.	NSG 2100	1428
41	STANFORD UNIVERSITY	Kordes, E. E.	DFRC	McIntosh, S. C., Jr.	NGL 05-020-498	1391
41	STANFORD UNIVERSITY	Deets, D. A.	DFRC	Bryson, A. E.	NSG 4002	1434
41	STANFORD UNIVERSITY	Doggett, R. V., Jr.	LARC	Ashley, H.	NGL 05-020-243	1387
41	STANFORD UNIVERSITY	Reed, W. H., III	LARC	Herrmann, G.	NGL 05-020-397	1390
41	STANFORD UNIVERSITY	Colladay, R. S.	LERC	Kays, W. M.	NAS 3-14336	1339
41	TEXAS A&M UNIVERSITY	Malcolm, G. N.	ARC	MacHa, J. M.	NSG 2123	3438
41	TEXAS A&M UNIVERSITY	Hillje, E. R.	JSC	Cavin, R. K., III	NAS 9-14478	3422
41	TEXAS A&M UNIVERSITY	South, J. C., Jr.	LARC	Carlson, L. A.	NSG 1174	3437
41	TUFTS UNIVERSITY	Zill, L. P.	ARC	Kreifieldt, J. G.	NCA 2-785401	2528
41	TUFTS UNIVERSITY	Zill, L. P.	ARC	Kreifieldt, J. G.	NCA 2-785501	2529
41	TUFTS UNIVERSITY	Zill, L. P.	ARC	Cole, J. E., III	NCA 2-785601	2530
41	TULANE UNIVERSITY	Priem, R. J.	LERC	O'Hara, J. C.	NGR 19-002-030	2262
41	UNIV OF ARIZONA	Ballhaus, W. F.	ARC	Seebass, A. R.	NSG 2112	1151
41	UNIV ARKANSAS-FAYETV	Ahtye, W. F.	ARC	Testerman, M. K.	NGL 04-001-007	1178
41	UNIV ARKANSAS-LTL RK	Zill, L. P.	ARC	Testerman, M. K.	NCA 2-45501	1180
41	UNIV ARKANSAS-LTL RK	Johnson, D. A.	ARC	Testerman, M. K.	NCA 2-45601	1181
41	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Postman, L. J.	NCA 2-50503	1457
41	UNIV CALIF-BERKELEY	Chapman, G. T.	ARC	Holt, M.	NGR 05-003-451	1480
41	UNIV CALIF-BERKELEY	Ciffone, D. L.	ARC	Wehausen, J. V.	NSG 2110	1497
41	UNIV CALIF-BERKELEY	Waters, M. H.	ARC	Horonjeff, R.	NSG 2127	1499
41	UNIV CALIF-BERKELEY	Waters, M. H.	ARC	Horonjeff, R.	NSG 2133	1500
41	UNIV CALIF-DAVIS	Zill, L. P.	ARC	White, B. R.	NCA 2-180503	1518
41	UNIV CALIF-DAVIS	Nelson, D.	GSFC	Coulson, K. L.	NAS 5-22964	1513
41	UNIV CALIF-L ANGELES	Polentz, P. P.	ARC	Dixon, W. J.	NAS 2-7785	1533
41	UNIV CALIF-L ANGELES	Zill, L. P.	ARC	Schmit, L. A.	NCA 2-390405	1547
41	UNIV CALIF-L ANGELES	Anderson, A. E.	ARC	Meecham, W. C.	NGR 05-007-323	1566
41	UNIV CALIF-L ANGELES	Carter, A. L.	DFRC	Unavailable	NAS 4-1995	1537
41	UNIV CALIF-L ANGELES	Rediess, H. A.	DFRC	Balakrishnan, A. V.	NGL 05-007-379	1561
41	UNIV CALIF-L ANGELES	Stroud, W. J.	LARC	Schmit, L. A.	NGR 05-007-337	1569
41	UNIV CALIF-L ANGELES	Bland, S. R.	LARC	Cole, J. D.	NGR 05-007-395	1572
41	UNIV CALIF-L ANGELES	Hammond, C. E.	LARC	Friedmann, P.	NGR 05-007-414	1574
41	UNIV CALIF-SAN DIEGO	Gessow, A.	LARC	Libby, P. A.	NGR 05-009-178	1623
41	UNIV OF CINCINNATI	Burke, J. A.	ARC	Tabakoff, W.	NAS 2-7850	3135
41	UNIV OF CINCINNATI	Suit, W. T.	LARC	Wells, W. R.	NGR 36-004-061	3136
41	UNIV OF CINCINNATI	Dunavant, J. C.	LARC	Polak, A.	NSG 1208	3141
41	UNIV OF CINCINNATI	Prust, H. W., Jr.	LERC	Tabakoff, W.	NGR 36-004-064	3137
41	UNIV OF CINCINNATI	Jones, R. E.	LERC	Kauffman, C. W.	NSG 3045	3144
41	UNIV OF CINCINNATI	Davison, H. W.	LERC	Tabakoff, W.	NSG 3066	3145
41	UNIV COLORADO-BOLDR	Davis, S. S.	ARC	Kadlec, R. A.	NSG 2128	1793
41	UNIV COLORADO-BOLDR	Rainey, R. W.	LARC	Culp, R. D.	NSG 1056	1768
41	UNIV COLORADO-BOLDR	Deissler, R. G.	LERC	Uberoi, M. S.	NGR 06-003-208	1783
41	UNIV OF CONNECTICUT	Gregory, T. J.	ARC	White, P. R.	NSG 2155	1820
41	UNIV OF DAYTON	Camp, D. W.	MSFC	Leurs, J. K.	NAS 8-31294	3150
41	UNIV OF FLORIDA	Zill, L. P.	ARC	Clarkson, M. H.	NCA 2-240501	1920
41	UNIV OF FLORIDA	Malcolm, G. N.	ARC	Clarkson, M. H.	NSG 2120	1928
41	UNIV OF FLORIDA	Margason, R. J.	LARC	Fearn, R. L.	NGL 10-005-127	1924
41	UNIV HOUSTON-HOUSTON	Zill, L. P.	ARC	Kiehn, R. M.	NCA 2-295502	3459

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
41	UNIV HOUSTON-HOUSTON	Hefner, J. N.	LARC	Hussain, A. K.	NSG 1290	3471
41	UNIV ILLINOIS-CHICGO	Evans, J. S.	LARC	Chung, P. M.	NSG 1150	2075
41	UNIV ILLINOIS-URBANA	Morgan, R. L., Jr.	LARC	Ormsbee, A. I.	NGR 14-005-144	2077
41	UNIV ILLINOIS-URBANA	Stickle, J. W.	LARC	Ormsbee, A. I.	NGR 14-005-194	2082
41	UNIV ILLINOIS-URBANA	Hefner, J. N.	LARC	Lin, Y. K.	NSG 1233	2087
41	UNIV ILLINOIS-URBANA	Maestrello, L.	LARC	Lin, Y. K.	NSG 1264	2088
41	UNIV ILLINOIS-URBANA	Bober, L. J.	LERC	Chow, W. L.	NGL 14-005-140	2076
41	UNIV ILLINOIS-URBANA	Karchmer, A. M.	LERC	Jones, B. G.	NGR 14-005-149	2078
41	UNIV ILLINOIS-URBANA	Marek, C. J.	LERC	Strehlow, R. A.	NGR 14-005-193	2081
41	UNIV OF KANSAS	Galloway, T. L.	ARC	Roskam, J.	NSG 2145	2208
41	UNIV OF KANSAS	Zill, L. P.	ARC	Roskam, J.	NSG 4007	2212
41	UNIV OF KANSAS	Gee, S. W.	DFRC	Roskam, J.	NAS 4-2148	2187
41	UNIV OF KANSAS	Fields, R. A.	DFRC	Lenzen, K. H.	NSG 4006	2211
41	UNIV OF KANSAS	Jenkins, J. M.	DFRC	Lenzen, K. H.	NSG 4008	2213
41	UNIV OF KANSAS	Ward, J. F.	LARC	Muirhead, V. U.	NAS 1-12976	2186
41	UNIV OF KANSAS	Crane, H. L.	LARC	Kohlman, D. L.	NGR 17-002-072	2195
41	UNIV OF KANSAS	Pride, R. A.	LARC	Lenzen, K. H.	NGR 17-004-027	2197
41	UNIV OF KANSAS	Lamar, J. E.	LARC	Roskam, J.	NSG 1046	2198
41	UNIV OF KANSAS	Naumann, E. C.	LARC	Lenzen, K. H.	NSG 1122	2199
41	UNIV OF KANSAS	Campbell, J. F.	LARC	Lan, C. E.	NSG 1139	2200
41	UNIV OF KANSAS	Crane, H. L.	LARC	Kohlman, D. L.	NSG 1227	2202
41	UNIV OF KANSAS	Stephens, D. G.	LARC	Roskam, J.	NSG 1301	2205
41	UNIV OF KANSAS	Campbell, J. F.	LARC	Lan, C. E.	NSG 1302	2206
41	UNIVERSITY OF LOWELL	Fralich, R. W.	LARC	McElman, J. A.	NSG 1295	2533
41	UNIV MARYLAND-COL PK	McComb, H. G., Jr.	LARC	Schaefler, H. G.	NSG 1193	2346
41	UNIV MD-EASTRN SHORE	Raine, A. W.	WFC	Nagarajon, N.	NGR 21-119-002	2368
41	UNIV MICH-ANN ARBOR	Feistel, T. W.	ARC	Kroeger, R. A.	NSG 2018	2595
41	UNIV MICH-ANN ARBOR	Galloway, T. L.	ARC	Kroeger, R. A.	NSG 2056	2596
41	UNIV MICH-ANN ARBOR	Anderson, S. B.	ARC	Kroeger, R. A.	NSG 2113	2597
41	UNIV MICH-ANN ARBOR	McCarty, J. L.	LARC	Clark, S. R.	NGL 23-005-010	2575
41	UNIV MICH-ANN ARBOR	Czarnecki, K. R.	LARC	Sichel, M.	NGR 23-005-523	2582
41	UNIV MICH-ANN ARBOR	McCarty, J. L.	LARC	Clark, S. K.	NSG 1080	2590
41	UNIV MICH-ANN ARBOR	Stough, H. P.	LARC	Kroeger, R. A.	NSG 1229	2592
41	UNIV MISS-UNIVERSITY	Gutierrez, O. A.	LERC	Shields, F. D.	NAS 3-19431	2679
41	UNIV MO-ROLLA	Mixson, J. S.	LARC	Koval, L. R.	NSG 1050	2703
41	UNIV NEVADA-L VEGAS	Davis, S. S.	ARC	Fromme, J. A.	NSG 2140	2730
41	UNIV OF NOTRE DAME	Feiler, C. E.	LERC	Atassi, H.	NSG 3037	2145
41	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Markle, G. E.	NCA 2-685409	1677
41	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Pefley, R. K.	NCA 2-685505	1680
41	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Raggett, J.	NCA 2-685601	1685
41	UNIV OF SANTA CLARA	Hruby, R. J.	ARC	Dunn, W. R.	NGR 05-017-031	1694
41	UNIV OF SANTA CLARA	Buell, D. A.	ARC	Cheng, D. Y.	NGR 05-017-033	1695
41	UNIV OF SANTA CLARA	Meyer, G.	ARC	Weissenberger, S.	NSG 2106	1700
41	UNIV OF SOUTHAMPTON	Kilgore, R. A.	LARC	Goodyer, M. J.	NSG 7172	3819
41	UNIV OF SOUTHERN CAL	Zill, L. P.	ARC	Cheng, H. K.	NCA 2-730501	1710
41	UNIV OF SOUTHERN CAL	Zill, L. P.	ARC	Cheng, H. K.	NCA 2-730601	1711
41	UNIV OF SOUTHERN CAL	Seiner, J. M.	LARC	Laufer, J.	NSG 1221	1717
41	UNIV OF SOUTHERN CAL	Dorsch, R. G.	LERC	Laufer, J.	NAS 3-17857	1705
41	UNIV OF SOUTHERN CAL	Olsen, W. A.	LERC	Laufer, J.	NSG 3025	1718
41	UNIV STHN COLORADO	Hruby, R. J.	ARC	Jenkins, R.	NSG 2048	1815
41	UNIV TENNESSEE-KNOXV	Clark, L. R.	LARC	Lumsdaine, E.	NSG 1081	3342
41	UNIV TENNESSEE-KNOXV	Hammond, C. E.	LARC	Lumsdaine, E.	NSG 1171	3344
41	UNIV TENNESSEE-KNOXV	Bland, S. R.	LARC	Kimble, K. R.	NSG 1224	3345
41	UNIV TENNESSEE-KNOXV	Dittmar, J. H.	LERC	Lumsdaine, E.	NGR 43-001-134	3340
41	UNIV TENNESSEE-KNOXV	Reshotko, M.	LERC	Maus, J. R.	NGR 43-001-135	3341
41	UNIV TEXAS-ARLINGTON	Rubesin, M. W.	ARC	Payne, F. R.	NSG 2077	3477
41	UNIV TEXAS-AUSTIN	Medan, R. T.	ARC	Summa, J. M.	NSG 2101	3511
41	UNIV TEXAS-AUSTIN	Goodrich, W. D.	JSC	Bertin, J. J.	NAS 9-13680	3486

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
41	UNIV TEXAS-AUSTIN	Hilton, D. A.	LARC	Blackstock, D. T.	NAS 1-14160	3478
41	UNIV OF TORONTO	Foye, R. L.	LARC	Tennyson, R. C.	NGR 52-026-039	3814
41	UNIV OF VIRGINIA	Schoonover, W. E., Jr.	LARC	Kuhlthau, A. R.	NGR 47-005-181	3671
41	UNIV OF VIRGINIA	Lichtenstein, J. H.	LARC	Jacobson, I. R.	NGR 47-005-208	3674
41	UNIV OF VIRGINIA	Schoenster, J. A.	LARC	Haviland, J. K.	NGR 47-005-219	3676
41	UNIV OF VIRGINIA	Kilgore, R. A.	LARC	Zapata, R. N.	NSG 1010	3677
41	UNIV OF VIRGINIA	Leatherwood, J. D.	LARC	Jacobson, I. D.	NSG 1180	3681
41	UNIV OF WASHINGTON	Zill, L. P.	ARC	Businger, J. A.	NCA 2-850501	3741
41	UNIV OF WASHINGTON	Rose, W. C.	ARC	Childs, M. E.	NGL 48-002-047	3747
41	UNIV OF WASHINGTON	Steinle, F. W., Jr.	ARC	Russell, D. A.	NGR 48-002-107	3750
41	UNIV OF WASHINGTON	Rose, W. C.	ARC	Childs, M. E.	NGR 48-002-141	3752
41	UNIV OF WASHINGTON	Heyson, H. H.	LARC	Joppa, R. G.	NGL 48-002-010	3744
41	UNIV OF WASHINGTON	Heyson, H. H.	LARC	Rae, W. H.	NGL 48-002-035	3745
41	UNIV OF WASHINGTON	Fellows, R. F.	HQ-SL	Hodge, P. W.	NGR 48-002-003	3748
41	UNIV WISC-MILWAUKEE	Young, W. H., Jr.	LARC	Bratanow, T.	NGR 50-007-001	3806
41	VA MILITARY INSTITUT	Creedon, J. F.	LARC	Reid, G. F.	NGR 47-018-005	3688
41	VIRGINIA POLY INST	Gaspers, P. A., Jr.	ARC	Weisshaar, T. A.	NSG 2016	3729
41	VIRGINIA POLY INST	Anderson, A. F.	LARC	Drew, D. R.	NGR 47-004-090	3699
41	VIRGINIA POLY INST	Montgomery, R. C.	LARC	Caglayan, A. K.	NGR 47-004-116	3702
41	VIRGINIA POLY INST	Montgomery, R. C.	LARC	Cliff, E. M.	NSG 1015	3705
41	VIRGINIA POLY INST	Newman, J. C., Jr.	LARC	Smith, C. W.	NSG 1024	3707
41	VIRGINIA POLY INST	Davidson, J. R.	LARC	Heller, R. A.	NSG 1099	3711
41	VIRGINIA POLY INST	Kvaternik, R. G.	LARC	Meirovitch, L.	NSG 1114	3713
41	VIRGINIA POLY INST	Montgomery, R. C.	LARC	Van Landingham, H. E.	NSG 1239	3721
41	VIRGINIA POLY INST	Hefner, J. N.	LARC	Nayfeh, A. H.	NSG 1255	3724
41	VIRGINIA POLY INST	Yates, E. C., Jr.	LARC	Nayfeh, A. H.	NSG 1262	3725
41	VIRGINIA POLY INST	Diedrich, J. H.	LERC	Jakubowski, A. K.	NSG 3073	3731
41	VIRGINIA STATE COL	Lester, H. C.	LARC	Agrawal, K. M.	NGL 47-014-009	3733
41	WASHINGTON UNIVERSTY	Morse, H. A.	ARC	Hohenemser, K. H.	NAS 2-7613	2706
41	WICHITA STATE UNIV	Hicks, R. M.	ARC	Wentz, W. H., Jr.	NSG 2134	2221
41	WICHITA STATE UNIV	Noonan, K. W.	LARC	Wentz, W. H., Jr.	NGR 17-003-021	2217
41	WICHITA STATE UNIV	McGhee, R. J.	LARC	Wentz, W. H., Jr.	NSG 1165	2218
41	WICHITA STATE UNIV	Bowman, J. S., Jr.	LARC	Craig, A. J.	NSG 1189	2219
41	WICHITA STATE UNIV	Morgan, H. L., Jr.	LARC	Zumwalt, G. W.	NSG 1192	2220
42	CAL STATE U-SACRAMEN	Priem, R. J.	LERC	Reardon, F. H.	NGR 05-058-003	1267
42	COLORADO STATE UNIV	Priem, R. J.	LERC	Mitchell, C. E.	NGR 06-002-095	1739
42	COLORADO STATE UNIV	Serafini, J. S.	LERC	Wilhelm, H. E.	NGR 06-002-147	1745
42	COLORADO STATE UNIV	Mirtich, M. J.	LERC	Kaufman, H. R.	NSG 3011	1750
42	GEORGIA INST OF TECH	Priem, R. J.	LERC	Zinn, B. T.	NGR 11-002-179	1985
42	GEORGIA INST OF TECH	Priem, R. J.	LERC	Zinn, B. T.	NSG 3052	1993
42	MASS INST OF TECH	Young, R. S.	HQ-SL	Biemann, K.	NGR 22-009-102	2458
42	PENN STATE U-UNIV PK	Priem, R. J.	LERC	Faeth, G. M.	NGR 39-009-077	3243
42	PENN STATE U-UNIV PK	Cramblitt, D.	HQ-MT	Kaplan, M.	NSG 7078	3259
42	POLY INST OF NY	Hoppe, J. C.	LARC	Lederman, S.	NSG 1198	2963
42	PRINCETON UNIVERSITY	Barbieri, R. W.	GSFC	Lion, P. M.	NGR 31-001-152	2768
42	PRINCETON UNIVERSITY	Lazar, J.	HQ-RP	Jahn, R. G.	NGL 31-001-005	2762
42	STANFORD UNIVERSITY	Zill, L. P.	ARC	Croft, T. A.	NCA 2-745510	1358
42	STANFORD UNIVERSITY	Howe, J. T.	ARC	Bershades, D.	NSG 2085	1426
42	STANFORD UNIVERSITY	Lidston, J. M.	GSFC	Debra, D. B.	NAS 5-21960	1343
42	TEXAS A&M UNIVERSITY	Staylor, W. F.	LARC	Kattawar, G. W.	NAS 1-14185	3404
42	UNIV ALA-HUNTSVILLE	Swenson, G. R.	MSFC	Hermann, R.	NAS 8-28248	1045
42	UNIV HOUSTON-HOUSTON	Eggleston, J. M.	JSC	Michalopoulos, C. D.	NAS 9-14347	3451
42	UNIV OF LOUISVILLE	Gross, L. A.	MSFC	Childs, D. W.	NAS 8-31235	2233
42	UNIV MICH-ANN ARBOR	Wright, D.	LERC	Ferris, J.	NAS 3-19533	2554
42	UNIV MICH-ANN ARBOR	Haggard, J. B., Jr.	LERC	Nicholls, J. A.	NGR 23-005-536	2584
42	UNIV TENNESSEE-KNOXV	Hertsgaard, H. B.	MSFC	Kennedy, E. J.	NAS 8-27296	3330
43	AUBURN UNIV-AUBURN	Shackelford, B. W.	MSFC	Sforzini, R. H.	NCA 8-108	1026
43	AUBURN UNIV-AUBURN	Shackleford, B. W.	MSFC	Sforzini, R. H.	NCA 8-120	1028

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
43	AUBURN UNIV-AUBURN	Shackleford, B. W.	MSFC	Sforzini, R. H.	NCA 8-124	1029
43	CASE WESTERN RESERVE	Connolley, D. J.	LERC	Angus, J. C.	NSG 3074	3095
43	FLORIDA INST OF TECH	Franks, H. H.	KSC	Bowman, T. E.	NAS10-8399	1903
43	GEORGIA INST OF TECH	Harris, J. W.	JSC	Ha[illegible], R. K.	NSG 9040	1999
43	GRAMBLING STATE UNIV	Bogard, D. D.	JSC	Sabu, D. D.	NGR 19-011-012	2239
43	MASS INST OF TECH	Mularz, E. J.	LERC	Heywood, J. B.	NGR 22-009-378	2462
43	MASS INST OF TECH	Norgren, C. T.	LERC	Howard, J. B.	NSG 3102	2514
43	RICE UNIVERSITY	Kissinger, L. D.	JSC	Davis, S. H.	NAS 9-11827	3387
43	SAN JOSE STATE UNIV	Kourtides, D. A.	ARC	Young, W.	NSG 2105	1329
43	STATE U NY-STONY BRK	Cochran, T. H.	LERC	Berlad, A. L.	NSG 3051	3018
43	UNIV CALIF-BERKELEY	Wydeven, T., Jr.	ARC	Bell, A. T.	NSG 2043	1495
43	UNIV CALIF-SAN DIEGO	Cochran, T. H.	LERC	Williams, F. A.	NSG 3047	1635
43	UNIV OF FLORIDA	Post, R. E.	LERC	Walker, R. D., Jr.	NGL 10-005-022	1922
43	UNIV OF FLORIDA	Sheibley, D. W.	LERC	Walker, R. D., Jr.	NGR 10-005-182	1927
43	UNIV ILLINOIS-URBANA	Cochran, T. H.	LERC	Strehlow, R. A.	NSG 3043	2092
43	UNIV OF PITTSBURGH	Kostiuk, T.	GSFC	Falk, J.	NAS 5-22892	3271
43	UNIV SO CAROLINA-COL	Jorolan, A. E.	KSC	Bonnell, R. D.	NAS10-8354	3310
43	VIRGINIA POLY INST	Dibattista, J. D.	LARC	Drew, S. W.	NSG 1230	3719
44	COLORADO STATE UNIV	Cliff, W. C.	MSFC	Cermak, J. E.	NAS 8-29583	1726
44	COLORADO STATE UNIV	Fichtl, G. H.	MSFC	Sandhorn, V. A.	NAS 8-31688	1731
44	DUKE UNIVERSITY	Snyder, W. J.	LARC	Dajani, J. S.	NSG 1121	3049
44	HOWARD UNIVERSITY	Kruszewski, E. T.	LARC	Broome, T. H.	NSG 1130	1886
44	OLD DOMINION UNIV	Leland, T. J.	LARC	Cheng, R.	NGL 47-003-012	3609
44	OLD DOMINION UNIV	Weidman, D. J.	LARC	Narayanaswami, R.	NSG 1117	3630
44	UNIV ALA-HUNTSVILLE	Morton, R. R.	MSFC	Grohse, E. W.	NAS 8-31169	1054
44	UNIV CALIF-BERKELEY	Kourtides, D. A.	ARC	Williamson, R. B.	NSG 2026	1494
44	UNIV OF KANSAS	Pritchard, E. B.	LARC	Lenzen, K. H.	NSG 1310	2207
44	VIRGINIA POLY INST	Hayduk, R. J.	LARC	Kamat, M. P.	NGR 47-004-114	3701
44	VIRGINIA POLY INST	Kruszewski, E. T.	LARC	Meirovitch, L.	NSG 1109	3712
45	ALABAMA A&M UNIV	Teasdale, W. E.	JSC	Weathers, G. D.	NAS 9-14770	1000
45	ALABAMA A&M UNIV	Lowrey, D. O.	MSFC	Weather, G. D.	NSG 8013	1006
45	AUBURN UNIV-AUBURN	Emens, F. H.	MSFC	Irwin, J. D.	NAS 8-20765	1015
45	AUBURN UNIV-AUBURN	White, J. B.	MSFC	Carroll, B. D.	NAS 8-26930	1016
45	AUBURN UNIV-AUBURN	Gould, J. M.	MSFC	Carroll, B. D.	NAS 8-31190	1022
45	AUBURN UNIV-AUBURN	Keer, J. H.	MSFC	Pinson, L. J.	NAS 8-31223	1023
45	AUBURN UNIV-AUBURN	Matheney, J. L.	MSFC	Carroll, B. D.	NAS 8-31572	1024
45	BROWN UNIVERSITY	Kelly, W. L., IV	LARC	Patterson, W. R., III	NSG 1222	3300
45	CASE WESTERN RESERVE	McAvoy, N.	GSFC	Pao, Y. H.	S-27376B	3101
45	CASE WESTERN RESERVE	Nice, A. W.	LERC	Pao, J. H.	NSG 3085	3098
45	CITY COLLEGE OF N Y	Miller, J. E.	GSFC	Schilling, D. L.	NSG 5013	2856
45	CITY COLLEGE OF N Y	Batson, B. H.	JSC	Schilling, D. L.	NAS 9-13940	2850
45	COLORADO STATE UNIV	Zill, L. P.	ARC	She, C. Y.	NCA 2-165603	1736
45	COLORADO STATE UNIV	Rositano, S. A.	ARC	Sun, C. T.	NSG 2009	1749
45	COLORADO STATE UNIV	Berge, L. H.	MSFC	Jones, T. B.	NAS 8-30250	1727
45	DUKE UNIVERSITY	Rodriquez, G. E.	GSFC	Wilson, T. G.	NAS 5-22475	3046
45	DUKE UNIVERSITY	Rodriguez, G. E.	GSFC	Simonett, D. S.	NGL 34-001-001	3047
45	DUKE UNIVERSITY	Cote, C. E.	GSFC	Wang, P. P.	NSG 5020	3051
45	GEORGE WASHINGTON U	Swift, C. T.	LARC	Liebowitz, H.	NGR 09-010-096	1863
45	GEORGE WASHINGTON U	Bailey, M. C.	LARC	Liebowitz, H.	NSG 1110	1865
45	GEORGIA INST OF TECH	O'Donnell, H.	GSFC	Ryan, C. E.	NAS 5-22344	1966
45	GEORGIA INST OF TECH	Dod, L. R.	GSFC	Bassett, H. L.	NAS 5-22422	1967
45	GEORGIA INST OF TECH	King, J. L.	GSFC	Dees, J. W.	NAS 5-23603	1968
45	GEORGIA INST OF TECH	King, J. L.	GSFC	Dees, J. W.	NSG 5012	1995
45	GEORGIA INST OF TECH	Wright, M. T.	KSC	Webb, R. P.	NAS10-8375	1979
45	GEORGIA INST OF TECH	Conroy, M. J.	LERC	Bassett, H. L.	NAS 3-18901	1962
45	GEORGIA INST OF TECH	Stevens, G.	LERC	Hilson, N.	NAS 3-20110	1964
45	HAMPTON INSTITUTE	Katzberg, S. J.	LARC	Trehan, A. K.	NSG 1146	3599
45	HAMPTON INSTITUTE	Katzberg, S. J.	LARC	Trehan, A. K.	NSG 1294	3600

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
45	HOFSTRA UNIVERSITY	Swift, C. T.	LARC	Weissman, D. E.	NGR 33-209-002	2940
45	HOWARD UNIVERSITY	Savely, R. T.	JSC	Choudhury, A. K.	NSG 9010	1893
45	JOHNS HOPKINS UNIV	Bavuso, S. J.	LARC	Masson, G. M.	NSG 1265	2285
45	KANSAS STATE UNIV	Zill, L. P.	ARC	Ahmed, N.	NCA 2-363501	2182
45	MASS INST OF TECH	Freibaum, J.	HQ-EC	Unavailable	NASW 2787	2442
45	MASS INST OF TECH	Alsberg, H.	HQ-RE	Kennedy, R. S.	NGL 22-009-013	2444
45	MEMPHIS ST UNIV	Shack, P. E.	JSC	Morris, C. F.	NAS 9-13878	3321
45	MISSISSIPPI STATE U	Pitts, E. H.	MSFC	Rogers, T. W.	NAS 8-30618	2660
45	MISSISSIPPI STATE U	Smith, H. F.	MSFC	Ingels, F. M.	NAS 8-31373	2662
45	NEW MEX ST U-LAS CR	Schlimmer, G. E.	KSC	Bumgarner, R. A.	NAS10-7399	2807
45	NO CAROLINA STATE U	Croswell, W. F.	LARC	Herman, B. M.	NGR 34-002-188	3062
45	NO CAROLINA STATE U	Hutchby, J. A.	LARC	Hauser, J. R.	NSG 1116	3066
45	NO CAROLINA STATE U	Godlewski, M. P.	LERC	Hauser, J. R.	NGR 34-002-195	3063
45	OHIO STATE UNIV	Billingham, J.	ARC	Dixon, R. S.	NSG 2162	3129
45	OHIO STATE UNIV	Hirschmann, E.	GSFC	Hodge, D. B.	NAS 5-22575	3113
45	OHIO STATE UNIV	Hirschmann, E.	GSFC	Ksienski, A. A.	NGR 36-008-080	3121
45	OHIO STATE UNIV	Gilreath, M. C.	LARC	Burnside, W. D.	NGL 36-008-138	3120
45	OHIO STATE UNIV	Cooper, D. W.	LERC	Peake, W. H.	NSG 3005	3130
45	OHIO UNIVERSITY	Reid, H. J., Jr.	LARC	McFarland, R. H.	NAS 1-14124	3131
45	OHIO UNIVERSITY	Reid, H. J., Jr.	LARC	McFarland, R. H.	NGR 36-009-017	3133
45	OLD DOMINION UNIV	Tripp, J. S.	LARC	Tcheng, P. L.	NSG 1079	3626
45	OLD DOMINION UNIV	Hellbaum, R. F.	LARC	Goglia, G. L.	NSG 1177	3638
45	RENSSELAER POLY-NY	Grant, T. L.	ARC	Modestino, J. W.	NGR 33-018-188	2980
45	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Catalano, G. T.	NCA 2-660411	1277
45	SO DAKOTA SCHL MINES	Reinhardt, V. S.	GSFC	Gruber, C. L.	NAS 5-23470	3314
45	SOUTHERN METHODIST U	Walker, G. H.	LARC	Ashley, K. L.	NSG 1206	3401
45	SO UNIV-BATON ROUGE	Echelkamp, R. E.	JSC	Grewal, G. S.	NSG 9030	2258
45	SO UNIV-BATON ROUGE	Trenkle, J. J.	MSFC	Anderson, J. A.	NSG 8028	2256
45	STANFORD UNIVERSITY	Lorell, K. R.	ARC	Powell, J. D.	NAS 2-9002	1337
45	STANFORD UNIVERSITY	Zill, L. P.	ARC	Peterson, A. M.	NCA 2-745513	1361
45	STANFORD UNIVERSITY	Zill, L. P.	ARC	Powell, J. D.	NCA 2-745518	1366
45	STANFORD UNIVERSITY	Zill, L. P.	ARC	Parker, E. B.	NCA 2-745606	1375
45	STANFORD UNIVERSITY	Baker, J.	GSFC	Villard, O. G.	NAS 5-10102	1340
45	STANFORD UNIVERSITY	Williams, T. S., Jr.	LARC	Tyler, G. L.	NAS 1-9701	1334
45	STANFORD UNIVERSITY	Pontious, C. E.	HQ-RE	McCarthy, J.	NASW 2916	1349
45	STANFORD UNIVERSITY	Pontious, C. E.	HQ-RE	Harris, S. E.	NGL 05-020-103	1383
45	SYRACUSE UNIVERSITY	Sterner, R. L.	LARC	Schroder, K.	NSG 1194	3033
45	TENNESSEE TECH U	Kadrmas, K. A.	MSFC	Childress, R. Q.	NAS 8-31252	3325
45	TENNESSEE TECH U	Humphries, W. R.	MSFC	Griggs, E. I.	NCA 8-102	3327
45	TEXAS A&M UNIVERSITY	Nowakowski, M. F.	MSFC	Porter, W. A.	NAS 8-26379	3410
45	TEXAS TECH UNIV	Day, J. L.	JSC	Portnoy, W. M.	NAS 9-11162	3441
45	TUSKEGEE INSTITUTE	Crowell, C. S.	MSFC	Doreswamy, C. V.	NSG 8003	1038
45	TUSKEGEE INSTITUTE	Young, L. E.	MSFC	Doreswamy, C. V.	NSG 8038	1039
45	UNIV ALA-TUSCALOOSA	Emens, F. H.	MSFC	Houts, R. C.	NAS 8-20172	1069
45	UNIV OF ARIZONA	Zill, L. P.	ARC	Call, R. L.	NCA 2-40502	1115
45	UNIV OF ARIZONA	Zill, L. P.	ARC	Williams, P. L.	NCA 2-40503	1116
45	UNIV OF ARIZONA	Schwenk, F. C.	HQ-NS	Schultz, D. G.	NGL 03-002-006	1129
45	UNIV OF ARIZONA	Roman, N. G.	HQ-SA	Tifft, W. G.	NSG 7142	1166
45	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Angelakos, D. J.	NCA 2-50406	1454
45	UNIV CALIF-BERKELEY	Billman, K. W.	ARC	Gustafson, T. K.	NGR 05-003-559	1489
45	UNIV CALIF-DAVIS	Huffstetler, W. J.	JSC	Owens, E. W.	NAS 9-14696	1515
45	UNIV OF CINCINNATI	Sundberg, G. R.	LERC	Henderson, H. T.	NSG 3022	3142
45	UNIV OF CINCINNATI	Grier, N. T.	LERC	Nevin, J. H.	NSG 3024	3143
45	UNIV COLORADO-BOLDR	Jones, R. L.	LARC	Horowitz, I.	NSG 1140	1789
45	UNIV COLORADO-BOLDR	Schy, A. A.	LARC	Wang, S. H.	NSG 1213	1790
45	UNIV OF FLORIDA	Peake, H. J.	GSFC	Bailey, R. L.	NSG 5061	1930
45	UNIV OF FLORIDA	Godlewski, M. P.	LERC	Lindholm, F. A.	NSG 3018	1929
45	UNIV OF HAWAII-MANOA	Smith, M. C., Jr.	ARC	Lichtenberger, W. W.	NAS 2-9175	2019

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
45	UNIV OF KANSAS	Bailey, M. C.	LARC	Biggs, A. W.	NSG 1142	2201
45	UNIV MARYLAND-COL PK	Levine, D. M.	GSFC	Harger, R. O.	NSG 5048	2353
45	UNIV OF MASS-AMHERST	Rolinski, A. J.	GSFC	Monopoli, R. V.	NGL 22-010-018	2536
45	UNIV OF MIAMI	Shive, J.	GSFC	Unavailable	S-55672A	1947
45	UNIV MICH-ANN ARBOR	Way, S. H.	GSFC	MacNee, A. B.	NAS 5-22861	2564
45	UNIV MICH-ANN ARBOR	Ross, R. W.	GSFC	Ponnamperuma, C. A.	NAS 5-23267	2568
45	UNIV MICH-ANN ARBOR	Bavuso, S. J.	LARC	Meyer, J. F.	NSG 1306	2594
45	UNIV MO-COLUMBIA	Johnson, D. A.	ARC	Miles, J. B.	NCA 2-450604	2693
45	UNIV MO-COLUMBIA	Poland, W. B., Jr.	GSFC	Noack, T. L.	NAS 5-20826	2689
45	UNIV MO-ROLLA	Dawson, C. T.	JSC	Tranter, W. H.	NAS 9-14848	2697
45	UNIV OF NOTRE DAME	Lynch, T. J.	GSFC	Massey, J. L.	NSG 5025	2148
45	UNIV OF NOTRE DAME	Hendricks, H. D.	LARC	Magee, C. J.	NSG 1102	2144
45	UNIV OF NOTRE DAME	Lehtinen, B.	LERC	Leake, R. J.	NSG 3048	2146
45	UNIV OKLAHOMA-NORMAN	Gross, C.	LARC	Kahng, S. K.	NSG 1183	3176
45	UNIV OF PENNSYLVANIA	Durrani, S. H.	GSFC	Berkowitz, R. S.	NAS 5-23479	3264
45	UNIV OF PENNSYLVANIA	Durrani, S. H.	GSFC	Berkowitz, R. S.	NSG 5064	3267
45	UNIV SO CAROLINA-COL	Lowrey, D. O.	MSFC	Fellers, R. G.	NAS 8-28660	3309
45	UNIV OF SO FLORIDA	Triner, J. E.	LERC	Garrett, S. J.	NSG 3096	1950
45	UNIV OF SO FLORIDA	Caruso, S. V.	MSFC	Sergent, J.	NAS 8-31172	1948
45	UNIV OF SOUTHERN CAL	Kutz, R. L.	GSFC	Davisson, L. D.	NAS 5-21505	1706
45	UNIV OF SOUTHERN CAL	Kutz, R. L.	GSFC	Andrews, H. C.	NGL 05-018-118	1712
45	UNIV TENNESSEE-KNOXV	Huggins, C. T.	MSFC	Gonzalez, R. C.	NAS 8-29271	3331
45	UNIV TEXAS-AUSTIN	Hirschmann, E.	GSFC	Straiton, A. W.	NAS 5-21982	3480
45	UNIV TEXAS-AUSTIN	Hirschmann, E.	GSFC	Straiton, A. W.	NAS 5-22576	3481
45	UNIV TEXAS-AUSTIN	Fenner, R. G.	JSC	Beckner, F.	NAS 9-14892	3490
45	UNIV TEXAS-AUSTIN	Roth, J. R.	LERC	Powers, E. J.	NSG 3089	3512
45	UNIV OF TOLEDO	Lehtinen, B.	LERC	Leininger, G. G.	NSG 3063	3155
45	UNIV OF TOLEDO	Lehtinen, B.	LERC	Leininger, G. G.	NSG 3084	3156
45	UNIV OF UTAH	Coler, C. R.	ARC	Plummer, R. P.	NGR 45-003-108	3568
45	UNIV OF VIRGINIA	Kelly, W. L.	LARC	White, E. J.	NAS 1-10210	3662
45	UNIV OF VIRGINIA	Shultz, L. R.	LARC	McAlpine, G. A.	NSG 1128	3679
45	UNIV OF VIRGINIA	Husson, C.	LARC	Parrish, E. A., Jr.	NSG 1223	3682
45	VIRGINIA POLY INST	Hirschmann, E.	GSFC	Bostian, C. W.	NAS 5-21984	3693
45	VIRGINIA POLY INST	Hirschmann, E.	GSFC	Bostian, C. W.	NAS 5-22577	3694
45	WASHINGTON TECH INST	Ehrmann, C. H.	GSFC	Brach, P. L.	NAS 5-22383	1894
45	WASHINGTON TECH INST	Ehrmann, C. H.	GSFC	Brach, P. L.	NGR 09-059-002	1896
45	WAYNE STATE UNIV	Dunning, J. W., Jr.	LERC	Wang, E. Y.	NGR 23-006-063	2608
45	WAYNE STATE UNIV	Dunning, J. W., Jr.	LERC	Yu, F. T.	NSG 3035	2611
45	WEST VIRGINIA UNIV	Johnson, J. W.	LARC	Balanis, C. A.	NGR 49-001-056	3768
45	YALE UNIVERSITY	Schaefer, D. H.	GSFC	Barker, R. C.	NGL 07-004-005	1824
46	ALABAMA A&M UNIV	Humphries, W. R.	MSFC	Saha, H.	NSG 8041	1010
46	CALIF INST OF TECH	Gross, L. A.	MSFC	Acosta, A. J.	NAS 8-29313	1199
46	CAL STATE U-L ANGLES	Pohly, J. G.	HQ-P	Maniv, R.	NSG 7229	1265
46	CAL STATE U-NRTHRDGE	Coe, H. H.	LERC	Nypan, L. J.	NSG 3065	1266
46	CARNEGIE-MELLON UNIV	Srawley, J. E.	LERC	Swedlow, J. L.	NGR 39-087-053	3201
46	CARNEGIE-MELLON UNIV	Ludwig, L. P.	LERC	Hughes, W. F.	NSG 3023	3202
46	CASE WESTERN RESERVE	Brewe, D. E.	LERC	Savage, M.	NSG 3077	3096
46	CASE WESTERN RESERVE	Schafer, C. F.	MSFC	Ostrach, S.	NAS 8-31802	3079
46	CLEMSON UNIV-CLEMSON	Reveley, W. F.	JSC	Gaddis, J. L.	NAS 9-13669	3304
46	CLEMSON UNIV-CLEMSON	Poe, C. C., Jr.	LARC	Goree, J. G.	NSG 1297	3307
46	CLEVELAND STATE UNIV	Townsend, D. P.	LERC	Kasuba, R.	NAS 3-18547	3105
46	COLORADO STATE UNIV	Debs, R. J.	ARC	Loehrke, R. I.	NGR 06-002-127	1743
46	COLORADO STATE UNIV	Kerslake, W. R.	LERC	Wilbur, P. J.	NGR 06-002-112	1742
46	COLORADO STATE UNIV	Cliff, W. C.	MSFC	Winn, C. B.	NAS 8-31237	1728
46	COLORADO STATE UNIV	Fichtl, G. H.	MSFC	Edwards, H. W.	NAS 8-31673	1730
46	GEORGIA INST OF TECH	Kirkpatrick, J. P.	ARC	Colwell, G. T.	NSG 2054	1990
46	GEORGIA INST OF TECH	Jones, W. R., Jr.	LERC	Winer, W. O.	NGR 11-002-133	1982
46	GEORGIA INST OF TECH	Wedeven, L. D.	LERC	Winer, W. O.	NSG 3106	1994

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
46	HOWARD UNIVERSITY	Huff, V. N.	HQ-MT	Bainum, P. M.	NGR 09-011-053	1881
46	MEMPHIS ST UNIV	Patterson, W. C.	MSFC	Perry, E.	NAS 8-31189	3320
46	MISSISSIPPI STATE U	Fleming, D. P.	LERC	Stiffler, A. K.	NGR 25-001-050	2670
46	MISSISSIPPI STATE U	Fleming, D. P.	LERC	Stiffler, A. K.	NSG 3111	2677
46	NEW MEX ST U-LAS CR	West, W. W.	WFC	Gammill, B. G.	NAS 6-2686	2804
46	NORTHWESTERN UNIV	Zaretsky, E. V.	LERC	Cheng, H.	NGR 14-007-084	2043
46	NORTHWESTERN UNIV	Zaretsky, E. V.	LERC	Cheng, H. S.	NSG 3042	2049
46	OLD DOMINION UNIV	Hefner, J. N.	LARC	Goglia, G. L.	NSG 1236	3644
46	PENN STATE U-UNIV PK	Dittmar, J. H.	LERC	Henderson, R. E.	NGR 39-009-275	3247
46	PURDUE UNIVERSITY	Feiler, C. E.	LERC	Peterson, A. M.	NSG 3029	2136
46	ROCHESTER INST TECH	Anderson, W. J.	LERC	Rieger, N. F.	NSG 3072	2987
46	SO UNIV-BATON ROUGE	Williamson, J. G.	MSFC	Frederick, D. K.	NSG 8025	2255
46	SO UNIV-BATON ROUGE	Trenkle, J. J.	MSFC	Scott, R. L., Jr.	NSG 8029	2257
46	STANFORD UNIVERSITY	Zill, L. P.	ARC	Debra, D.	NCA 2-745601	1370
46	STANFORD UNIVERSITY	Goldstein, H. E.	ARC	Bates, C. W.	NGR 05-020-710	1414
46	STANFORD UNIVERSITY	Graham, R. W.	LERC	Kays, W. M.	NGL 05-020-134	1384
46	TENNESSEE STATE UNIV	Humphries, W. R.	MSFC	Hougton, R.	NSG 8012	3323
46	TENNESSEE STATE UNIV	Cliff, W. C.	MSFC	Busby, M. R.	NSG 8032	3324
46	TENNESSEE TECH U	Priem, R. J.	LERC	Purdy, K. R.	NGR 43-003-015	3328
46	TUSKEGEE INSTITUTE	French, B. O.	JSC	Sellers, J. P.	NAS 9-13844	1035
46	UNIV ALA-HUNTSVILLE	Lacy, L. L.	MSFC	Otto, G. H.	NAS 8-31768	1063
46	UNIV ALA-TUSCALOOSA	Schutzenhofer, L. A.	MSFC	Doughty, J. O.	NAS 8-30624	1077
46	UNIV CALIF-BERKELEY	Marek, C. J.	LERC	Branch, M. C.	NSG 3028	1503
46	UNIV CALIF-L ANGELES	Savino, J. M.	LERC	Friedman, P. P.	NSG 3082	1581
46	UNIV OF CANTERBURY	Rice, E. J.	LERC	Eversman, W.	NSG 7192	3824
46	UNIV COLORADO-BOLDR	Holland, W. B.	MSFC	Feng, C. C.	NAS 8-31619	1770
46	UNIV OF DELAWARE	Deaton, J. W.	LARC	Pipes, R. B.	NSG 1304	1833
46	UNIV ILLINOIS-URBANA	Scribbe, H. W.	LERC	Conry, T. F.	NSG 3098	2094
46	UNIV OF KANSAS	Couch, J. P.	LERC	Lenzen, K. H.	NSG 3087	2209
46	UNIV OF KENTUCKY	McCutcheon, E. P.	ARC	Knapp, C. E.	NAS 2-8883	2224
46	UNIV OF KENTUCKY	Jackson, M. M.	JSC	Lafferty, J. F.	NAS 9-14392	2226
46	UNIV MICH-ANN ARBOR	Zill, L. P.	ARC	Howe, R. M.	NCA 2-440601	2573
46	UNIV MICH-ANN ARBOR	Ream, L. W.	LERC	Kroeger, R. A.	NAS 3-20051	2555
46	UNIV MO-ROLLA	Wedeven, L. D.	LERC	Medrow, R. A.	NSG 3113	2704
46	UNIV NEBRASKA-LINCLN	Johnston, J. D.	MSFC	Kersten, L.	NAS 8-31897	2724
46	UNIV OF NEW MEXICO	Hellbaum, R. F.	LARC	Richards, C. G.	NGR 32-004-026	2833
46	UNIV TENNESSEE-KNOXV	Fichtl, G. H.	MSFC	Frost, W.	NAS 8-29584	3332
46	UNIV TENNESSEE-KNOXV	Ellsworth, D. J.	MSFC	Hung, J. C.	NAS 8-29632	3333
46	UNIV OF UTAH	Wasel, R. A.	HQ-RP	Devires, K. L.	NGL 45-003-037	3566
46	UNIV OF WASHINGTON	Zill, L. P.	ARC	Mueller, J. I.	NCA 2-850602	3742
46	VIRGINIA POLY INST	Price, H. L.	LARC	Stinchcomb, W. W.	NSG 1254	3723
46	WASHINGTON UNIVERSTY	Deaton, J. W.	LARC	Wu, E. M.	NSG 1157	2715
47	CARNEGIE-MELLON UNIV	Witzke, W.	LERC	Bhat, G. K.	NAS 3-18929	3197
47	CARNEGIE-MELLON UNIV	Klopp, W. D.	LERC	Low, J. R., Jr.	NGR 39-087-003	3198
47	CARNEGIE-MELLON UNIV	Klopp, W. D.	LERC	Low, J. R., Jr.	NGR 39-087-047	3200
47	CASE WESTERN RESERVE	Glasgow, T. K.	LERC	Ebert, L. J.	NGL 36-003-094	3082
47	CASE WESTERN RESERVE	Andrews, C. W.	LERC	Hehemann, R. H.	NGR 36-027-051	3084
47	CASE WESTERN RESERVE	Probst, H. B.	LERC	Mitchell, T. E.	NSG 3027	3090
47	CASE WESTERN RESERVE	Fortini, A.	LERC	Dybbs, A.	NSG 3040	3091
47	CASE WESTERN RESERVE	Hirschberg, M. H.	LERC	Manson, S. S.	NSG 7035	3100
47	COLUMBIA UNIVERSITY	Glasgow, T. K.	LERC	Tien, J. K.	NSG 3050	2888
47	CORNELL UNIVERSITY	Nelson, H. G.	ARC	Johnson, H. H.	NSG 2078	2927
47	CORNELL UNIVERSITY	Aron, P. R.	LERC	Ruoff, A. L.	NGR 33-010-189	2923
47	GEORGE WASHINGTON U	Swann, R. T.	LARC	Liebowitz, H.	NSG 1155	1866
47	GEORGE WASHINGTON U	Poe, C. C., Jr.	LARC	Liebowitz, H.	NSG 1228	1870
47	GEORGE WASHINGTON U	Elber, W.	LARC	Liebowitz, H.	NSG 1289	1873
47	GEORGIA INST OF TECH	Eudy, R. G.	MSFC	Brown, J.	H-23602B	1958
47	HIRAM COLLEGE	Buckley, D. H.	LERC	Wheeler, D. R.	NSG 3026	3106

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
47	LEHIGH UNIVERSITY	Zill, L. P.	ARC	Wei, R. P.	NCA 2-380501	3214
47	LEHIGH UNIVERSITY	Poe,, C. C., Jr.	LARC	Arin, K.	NSG 1178	3222
47	LEHIGH UNIVERSITY	Ashbrook, R. L.	LERC	Kraft, R. W.	NGL 39-007-007	3216
47	LEHIGH UNIVERSITY	Bond, J. B.	MSFC	Vander Hoff, J. W.	NAS 8-28654	3211
47	MASS INST OF TECH	Harris, J. W.	JSC	Uhlmann, D. R.	NGR 22-009-646	2469
47	MASS INST OF TECH	Byvik, C. E.	LARC	Gatos, H. C.	NSG 1190	2493
47	MASS INST OF TECH	Quatinetz, M.	LERC	Grant, N. J.	NGL 22-009-003	2443
47	MASS INST OF TECH	Scheuermann, C. M.	LERC	Flemings, M. C.	NSG 3046	2507
47	MASS INST OF TECH	Vary, A.	LERC	Williams, J. H., Jr.	NSG 3064	2509
47	MASS INST OF TECH	Davidson, M. C.	MSFC	Gatos, H. C.	NAS 8-30537	2434
47	MASS INST OF TECH	Chassay, R. P.	MSFC	Uhlmann, D. R.	NAS 8-31350	2438
47	MASS INST OF TECH	Reeves, F. A.	MSFC	Hopper, R. W.	NAS 8-31552	2439
47	MASS INST OF TECH	Gangler, J. J.	HQ-RW	Unavailable	W-13995	2527
47	MICHIGAN STATE UNIV	Elber, W.	LARC	Sharp, W. N., Jr.	NSG 1148	2547
47	MISSISSIPPI STATE U	King, H. M.	MSFC	Hall, W. B.	NCA 8-107	2667
47	NEW MEX ST U-LAS CR	Nitschke, H. A.	JSC	Carver, K.	NAS 9-95469	2805
47	NO CAR A&T STATE U	Rhodes, M. D.	LARC	Sharma, A. V.	NSG 1296	3055
47	NO CAROLINA STATE U	Hagginbothom, W. K., Jr.	LARC	Manning, C. R., Jr.	NGR 34-002-108	3061
47	NO CAROLINA STATE U	O'Neal, R. L.	LARC	Manning, C. R., Jr.	NSG 1133	3067
47	NO CAROLINA STATE U	O'Neal, R. L.	LARC	Bailey, J. A.	NSG 1136	3068
47	NORTHWESTERN UNIV	Ludwig, L. P.	LERC	Burton, R. A.	NSG 3039	2048
47	OHIO STATE UNIV	Gray, H. R.	LERC	Beck, F. H.	NGL 36-008-051	3118
47	PENN STATE U-UNIV PK	Hirschberg, M. H.	LERC	Zamrik, S. Y.	NGR 39-009-034	3242
47	PENN STATE U-UNIV PK	Sanders, W. A.	LERC	Bradt, R. C.	NSG 3016	3254
47	PURDUE UNIVERSITY	Davidson, J. R.	LARC	Sun, C. T.	NSG 1278	2132
47	RENSSELAER POLY-NY	Lad, R. A.	LERC	Wiberly, S. E.	NGL 33-018-003	2975
47	RENSSELAER POLY-NY	Grimes, H. H.	LERC	Diefendorf, R. J.	NSG 3007	2983
47	RENSSELAER POLY-NY	Davidson, M. C.	MSFC	Wiedmann, H.	NAS 8-26146	2971
47	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Holnstrom, F.	NCA 2-675317	1289
47	SAN JOSE STATE UNIV	Altman, R. L.	ARC	Mayer, L. A.	NCA 2-675618	1322
47	STANFORD UNIVERSITY	Zill, L. P.	ARC	Barnett, D. M.	NCA 2-745603	1372
47	STANFORD UNIVERSITY	Rubesin, M. W.	ARC	Reynolds, W. C.	NGR 05-020-622	1405
47	STANFORD UNIVERSITY	Poppa, H. R.	ARC	Pound, G. M.	NSG 2071	1424
47	STANFORD UNIVERSITY	Nachtsheim, P. R.	ARC	Bates, C. W.	NSG 2102	1429
47	STANFORD UNIVERSITY	Whittenberger, J. D.	LERC	Sherby, O. D	NGR 05-020-671	1410
47	STATE U NY-STONY BRK	Levine, S. R.	LERC	Seigle, L. L.	NGR 33-015-160	3012
47	SYRACUSE UNIVERSITY	Hirschberg, M. H.	LERC	Liu, H. W.	NGR 33-022-157	3032
47	UNIV ALA-HUNTSVILLE	Lacy, L. L.	MSFC	Otto, G. H.	NAS 8-27809	1043
47	UNIV ALA-HUNTSVILLE	Zwiener, J. M.	MSFC	Castle, J. G., Jr.	NAS 8-30774	1052
47	UNIV OF ARIZONA	Allen, R. E.	MSFC	Bier, M.	NAS 8-31537	1111
47	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Everhart, T. E.	NCA 2-50501	1455
47	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Everhart, T. E.	NCA 2-50510	1461
47	UNIV CALIF-BERKELEY	Stephens, J. R.	LERC	Morris, J. W.	NGR 05-003-562	1490
47	UNIV CALIF-BERKELEY	Poppa, H. R.	HQ-	Everhart, T. E.	NCA 2-50605	1463
47	UNIV CALIF-DAVIS	King, R. B.	LERC	Cahill, T.	NAS 3-19850	1512
47	UNIV CALIF-L ANGELES	Johnson, R. L.	LERC	Amstutz, H. C.	NGR 05-007-338	1570
47	UNIV CALIF-L ANGELES	Unavailable	HQ-	Unavailable	C-80166C	1531
47	UNIV CALIF-SAN DIEGO	Woollam, J. A.	LERC	Oesterreicher, H.	NSG 3034	1634
47	UNIV OF KANSAS	Rummler, D. R.	LARC	Zerwekh, R. P.	NSG 1269	2203
47	UNIV OF KANSAS	Howell, W. E.	LARC	Reesie, C. D.	NSG 1281	2204
47	UNIV OF KENTUCKY	Sanders, W. A.	LERC	Leipold, M. H.	NGL 18-001-042	2227
47	UNIV OF KENTUCKY	Brown, W. F., Jr.	LERC	Conrad, H.	NSG 3013	2232
47	UNIV MARYLAND-COL PK	Stephens, J. R.	LERC	Drew, H. D.	NSG 3001	2348
47	UNIV OF MIAMI	Lisagor, W. B.	LARC	Craig, H. L., Jr.	NSG 1283	1945
47	UNIV OF MIAMI	Shannon, J. L., Jr.	LERC	Craig, H. L., Jr.	NGR 10-007-118	1944
47	UNIV MICH-ANN ARBOR	Fichter, W. B.	LARC	Felbeck, D. K.	NGR 23-005-528	2583
47	UNIV MICH-ANN ARBOR	Freche, J. C.	LERC	Wilson, D. J.	NGL 23-005-005	2574
47	UNIV MO-ROLLA	Zill, L. P.	ARC	Levenson, L. L.	NCA 2-450501	2698

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
47	UNIV MO-ROLLA	Zill, L. P.	ARC	James, W. J.	NCA 2-450601	2699
47	UNIV MO-ROLLA	Zill, L. P.	ARC	Levenson, L. L.	NCA 2-450603	2701
47	UNIV NEBRASKA-LINCLN	Nelson, H. G.	ARC	Johnson, D. L.	NGR 28-004-025	2727
47	UNIV OF PITTSBURGH	Stephens, J. R.	LERC	Meier, G. H.	NGR 39-011-164	3285
47	UNIV TENNESSEE-KNOXV	Newman, J. C., Jr.	LARC	Wright, M. A.	NSG 1163	3343
47	UNIV OF TORONTO	Foye, R. L.	LARC	Tennyson, R. C.	NSG 7219	3816
47	UNIV OF WASHINGTON	Lad, R. A.	LERC	Mueller, J. I.	NGL 48-002-004	3743
47	UNIV WISC-MADISON	Williams, J. R.	MSFC	Heine, R. W.	NAS 8-28733	3785
47	VANDERBILT UNIVERSTY	Caruso, S. V.	MSFC	Kinser, D. L.	NAS 8-30883	3353
47	VIRGINIA POLY INST	Williams, D. P.	ARC	Brinson, H. F.	NSG 2038	3730
47	VIRGINIA POLY INST	Stein, B. A.	LARC	Lytton, J. L.	NGR 47-004-108	3700
47	VIRGINIA POLY INST	Tenney, D. R.	LARC	Houska, C. R.	NSG 1214	3718
47	WASHINGTON ST UNIV	Yates, I. C., Jr.	MSFC	Johnson, A. A.	NAS 8-29725	3764
47	WAYNE STATE UNIV	Allen, R. E.	MSFC	Brown, R. K.	NAS 8-29823	2607
47	OREGON GRADUATE CTR	Morris, J. F.	LERC	Swanson, L. W.	NSG 3054	3179
49	AUBURN UNIV-AUBURN	Decker, A. J.	LERC	Ranson, W. F.	NSG 3109	1032
49	AUBURN UNIV-AUBURN	Craighead, P. T.	MSFC	Boland, J. S., III	NAS 8-29852	1017
49	AUBURN UNIV-AUBURN	Carter, C. H.	HQ-P	Vachon, R. I.	NGT 01-003-044	1030
49	AUBURN UNIV-AUBURN	Carter, C. H.	HQ-P	O'Brien, J. F.	NGT 01-003-045	1031
49	BALL STATE UNIVERSTY	Hastings, L. J.	MSFC	Cosby, R. M.	NCA 8-121	2100
49	CALIF INST OF TECH	Pontious, C. E.	HQ-RE	Ingargiola, G.	NGR 05-002-340	1230
49	CASE WESTERN RESERVE	Labus, T. L.	LERC	Ostrach, S.	NSG 3053	3092
49	CASE WESTERN RESERVE	Carter, C. H.	HQ-P	Prahl, J. M.	NGT 36-027-011	3088
49	CITY COLLEGE OF N Y	Ernst, H. E.	HQ-EE	Schilling, D. L.	NSG 7144	2857
49	COLORADO STATE UNIV	Fichtl, G. H.	MSFC	Winn, C. B.	NAS 8-31347	1729
49	COLUMBIA UNIVERSITY	Powell, C. A.	LARC	Borsky, [illegible] N.	NSG 1164	2887
49	CORNELL UNIVERSITY	Tarver, P.	HQ-SL	Wehe, R. L.	NASW 2573	2905
49	CORNELL UNIVERSITY	Tarver, P.	HQ-SL	Wehe, R. L.	NASW 2750	2906
49	GEORGE WASHINGTON U	McComb, H. G., Jr.	LARC	Toridis, T. G.	NAS 1-14313	1855
49	GEORGE WASHINGTON U	Anderson, A. F.	LARC	Liebowitz, H.	NGL 09-010-053	1858
49	GEORGIA INST OF TECH	Hein, G. F.	LERC	Zimmer, R. P.	NAS 3-17827	1961
49	GEORGIA INST OF TECH	Stevenson, S. M.	LERC	Camp, A. A.	NAS 3-19700	1963
49	GEORGIA INST OF TECH	Smith, O. E.	MSFC	Justus, C. G.	NAS 8-30657	1973
49	HAMPTON INSTITUTE	Anderson, A. F.	LARC	Darden, G. C.	NCA 1-1	3594
49	HARVARD UNIVERSITY	Rosendhal, J. D.	HQ-SA	Noyes, R. W	NASW 2938	2390
49	HOWARD UNIVERSITY	Mundy, J. R.	GSFC	Cox, E. L.	NCA 5-14	1878
49	HOWARD UNIVERSITY	Pohly, J. G.	HQ-P	Cox, E. L.	NGT 09-011-058	1885
49	JACKSON STATE UNIV	Zuk, J.	LERC	Chu, C. S.	NSG 3004	2654
49	LINCOLN UNIV-PA	Pohly, J. G.	HQ-P	Williams, W., Jr.	NGT 39-108-750	3225
49	MASS INST OF TECH	Doolin, B. F.	ARC	Athans, M.	NGL 22-009-124	2448
49	MASS INST OF TECH	Doolin, B. F.	ARC	Athans, M.	NSG 2076	2500
49	MASS INST OF TECH	Fichter, W. B.	LARC	Williams, J. H., Jr.	NSG 1217	2494
49	MASS INST OF TECH	Chamis, C. C.	LERC	McGarry, F. G.	NSG 3044	2506
49	MASS INST OF TECH	Gevarter, W. B.	HQ-RE	Winston, P. H.	NSG 7227	2526
49	MICHIGAN STATE UNIV	Orange, T. W.	LERC	Sharp, W. N., Jr.	NSG 3101	2548
49	MISSISSIPPI STATE U	Montgomery, W. D.	NSTL	Forbes, R. E.	NAS13-10	2665
49	MORGAN STATE UNIV	Friedman, D. S.	GSFC	Collagan, R. B.	NAS 5-23558	2293
49	NEW MEX ST U-LAS CR	Pohly, J. G.	HQ-P	Zimmerman, R. M.	NGT 32-003-750	2811
49	NEW YORK UNIVERSITY	Labus, T. L.	LERC	Keller, J. B.	NSG 3059	2952
49	NO CAR A&T STATE U	Pohly, J. G.	HQ-P	Chandra, S.	NGT 34-012-750	3053
49	OLD DOMINION UNIV	Martin, D. J.	LARC	Ousterhout, D. S.	NAS 1-11707	3605
49	OLD DOMINION UNIV	[illegible], H. K.	LARC	Zuckerwar, A. J.	NSG 1039	3622
49	OLD DOMINION UNIV	[illegible], C. R.	LARC	Roberts, A. S., Jr.	NSG 1241	3646
49	OLD DOMINION UNIV	Kruszewski, E. T.	LARC	Hyer, M. W.	NSG 1279	3653
49	OLD DOMINION UNIV	Wieting, A. R.	LARC	Thornton, E. A.	NSG 1321	3659
49	OLD DOMINION UNIV	Carter, C. H.	HQ-P	Goglia, G. L.	NGT 47-003-028	3618
49	OLD DOMINION UNIV	Carter, C. H.	HQ-P	Goglia, G. L.	NGT 47-003-029	3619
49	PENN STATE U-UNIV PK	Stevens, N. J.	LERC	Robinson, J. W.	NSG 3097	3257

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
49	PRAIRIE VIEW A&M U	Pohly, J. G.	HQ-P	Greaux, A. E.	NGT 44-033-756	3379
49	PRINCETON UNIVERSITY	Kelsall, T. N.	GSFC	Lowrance, J. L.	NSG 5063	2786
49	PRINCETON UNIVERSITY	Hohl, F.	LARC	Stoenescu, M. L.	NSG 1129	2780
49	PURDUE UNIVERSITY	Gregory, T. J.	ARC	Anderson, D. C.	NGR 15-005-180	2130
49	PURDUE UNIVERSITY	Pritchard, J. A.	GSFC	Phillips, T. L.	NAS 5-20922	2115
49	RENSSELAER POLY-NY	Tarver, P.	HQ-SL	Yerazunis, S. W.	NGL 33-018-091	2977
49	RUTGERS U-N BRUNSWK	Doolin, B. F.	ARC	Hermann, R.	NSG 2148	2792
49	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Myronuk, D. J.	NCA 2-675601	1308
49	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Myronuk, D. J.	NCA 2-675611	1316
49	SAN JOSE STATE UNIV	Mansfield, J. A.	ARC	Sharfstein, H.	NCA 2-675616	1321
49	SO UNIV-BATON ROUGE	Pohly, J. G.	HQ-P	Burrell, M. Q.	NGT 19-005-750	2252
49	STANFORD UNIVERSITY	Lumb, D. R.	ARC	Peterson, A. M.	NCA 2-745614	1379
49	STANFORD UNIVERSITY	Doolin, B. F.	ARC	Bryson, A. E.	NGL 05-020-007	1380
49	STANFORD UNIVERSITY	Jones, J. L.	ARC	Thompson, D. A.	NGR 05-020-345	1396
49	STANFORD UNIVERSITY	Billingham, J.	ARC	Peterson, A. M.	NSG 2121	1430
49	STANFORD UNIVERSITY	Keating, G. M.	LARC	Debra, D. B.	NSG 1210	1418
49	STANFORD UNIVERSITY	Carter, C. H.	HQ-P	Adams, J. L.	NGT 05-020-409	1415
49	STANFORD UNIVERSITY	Carter, C. H.	HQ-P	Bershader, D.	NGT 05-020-412	1416
49	TENNESSEE STATE UNIV	Pohly, J. G.	HQ-P	Clark, Y. Y.	NGT 43-014-750	3322
49	TEXAS A&I UNIVERSITY	Pohly, J. G.	HQ-P	Franke, E. A.	NGT 44-073-750	3403
49	TEXAS A&M UNIVERSITY	Nitschke, H. A.	JSC	Schell, J. A.	NAS 9-14493	3423
49	TEXAS A&M UNIVERSITY	Nitschke, H. A.	JSC	Schell, J. A.	NAS 9-14821	3427
49	TUSKEGEE INSTITUTE	Pohly, J. G.	HQ-P	Dybczak, Z. W.	NGT 01-005-750	1037
49	UNIV ALA-HUNTSVILLE	Carter, C. H.	HQ-P	Head, R. R.	NGT 01-008-021	1067
49	UNIV ALA-TUSCALOOSA	Morton, R. R.	MSFC	April, G. C.	NAS 8-29100	1072
49	UNIV ALA-TUSCALOOSA	Carter, C. H.	HQ-P	Barfield, B. F.	NGT 01-002-080	1081
49	UNIV OF ARIZONA	Zill, L. P.	ARC	Thompson, R. I.	NCA 2-40504	1117
49	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Bhattacharyya, B. K.	NCA 2-50504	1458
49	UNIV CALIF-BERKELEY	Chang, T. C.	GSFC	Angelakos, D. J.	NSG 5093	1505
49	UNIV CALIF-L ANGELES	Seltzer, S. M.	MSFC	Likins, P. W.	NAS 8-28358	1543
49	UNIV CALIF-SAN DIEGO	Schaefer, D. H.	GSFC	Lee, S. H.	NGR 05-009-264	1633
49	UNIV OF CINCINNATI	Mikulas, M. M., Jr.	LARC	Nayfeh, A. H.	NSG 1185	3140
49	UNIV OF CONNECTICUT	Mayes, W. H.	LARC	Cooker, H. S.	NSG 1082	1819
49	UNIV OF FLORIDA	Heath, D. F.	GSFC	Green, A. E.	NAS 5-22908	1916
49	UNIV HOUSTON-HOUSTON	Satterfield, J. M.	JSC	Hayre, H. S.	NAS 9-11845	3447
49	UNIV HOUSTON-HOUSTON	Eandi, B. K.	JSC	Huang, C. J.	NGL 44-005-090	3464
49	UNIV ILLINOIS-URBANA	Siewert, R. D.	LERC	Strehlow, R. A.	NSG 3056	2093
49	UNIV OF KANSAS	Horton, V. W.	DFRC	Muirhead, V. U.	NSG 4004	2210
49	UNIV OF KANSAS	Saltzman, E. J.	DFRC	Muirhead, V. U.	NSG 4009	2214
49	UNIV MARYLAND-COL PK	Degnan, J. J.	GSFC	Hochuli, U. E.	NSG 5042	2351
49	UNIV MARYLAND-COL PK	Carter, C. H.	HQ-P	Emad, F. P.	NGT 21-002-254	2342
49	U MINN-MNPLS-ST PAUL	Sizemore, K. O.	GSFC	Cahill, L. J., Jr.	NAS 5-11173	2619
49	U MINN-MNPLS-ST PAUL	Wainscott, F. H.	GSFC	Winckler, J. R.	NAS 5-11687	2622
49	UNIV NEBRASKA-LINCLN	Szajna, E. F.	GSFC	Carlson, M. P.	NAS 5-20814	2721
49	UNIV OF NEW MEXICO	Hyland, R. F.	LERC	Long, W. W.	NAS 3-18522	2815
49	UNIV OF NEW MEXICO	Hyland, R. F.	LERC	Burch, E.	NAS 3-19434	2816
49	UNIV OF NEW MEXICO	Pohly, J. G.	HQ-P	Theye, L. A.	NGT 32-004-750	2837
49	UNIV OKLAHOMA-NORMAN	Pohly, J. G.	HQ-P	Thomas, G.	NGT 37-003-760	3175
49	UNIV OF PERU	Christie, C. J.	GSFC	Unavailable	NASW 7	3825
49	UNIV OF RHODE ISLAND	Suttles, J. T.	LARC	Spaulding, M. L.	NSG 1008	3302
49	UNIV OF ROME	Goozh, P. E.	HQ-MV	Unavailable	NASW 1761	3823
49	UNIV OF SANTA CLARA	Doolin, B. F.	ARC	Siljak, D. D.	NGR 05-017-010	1692
49	UNIV OF SANTA CLARA	Seltzer, S. M.	MSFC	Siljak, D. D.	NAS 8-27799	1674
49	UNIV TENNESSEE-KNOXV	Velez, C. E.	GSFC	Feagin, T.	NSG 5040	3348
49	UNIV TEXAS-AUSTIN	Fuchs, A. J.	GSFC	Tapley, B. D.	NAS 5-20946	3479
49	UNIV TEXAS-AUSTIN	Fuchs, A. J.	GSFC	Tapley, B. D.	NGR 44-012-269	3505
49	UNIV TEXAS-AUSTIN	Richard, R. R.	JSC	Hartwig, W. H.	NAS 9-14491	3488
49	UNIV TEXAS-AUSTIN	Eandi, B. K.	JSC	McKetta, J. J.	NGL 44-012-133	3494

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
49	UNIV TEXAS-AUSTIN	Fralich, R. W.	LERC	Craig, R. R.	NSG 1268	3509
49	UNIV TEXAS-EL PASO	Pohly, J. G.	HQ-P	Guard, R. W.	NGT 44-085-750	3543
49	UNIV OF TOLEDO	Ramler, J. R.	LERC	Leininger, G. G.	NAS 3-17826	3151
49	UNIV OF TOLEDO	Willoh, R. G.	LERC	Leininger, G. G.	NGR 36-010-024	3153
49	UNIV OF VIRGINIA	Hueschen, R. M.	LARC	Cook, G.	NSG 1101	3678
49	UNIV OF VIRGINIA	Snyder, W. J.	LARC	Jacobson, I. D.	NSG 1274	3684
49	UNIV WISC-MADISON	Oberright, J. E.	GSFC	Dombrowski, R. M.	NAS 5-20068	3775
49	VIRGINIA POLY INST	Day, J. L.	JSC	Rivers, D. B.	NAS 9-14862	3696
49	VIRGINIA POLY INST	Martin, D. J.	LARC	Robertson, R. M.	NAS 1-13175	3690
49	VIRGINIA POLY INST	Davis, J. G., Jr.	LARC	Herakovich, C. T.	NGR 47-004-129	3704
49	VIRGINIA POLY INST	Wichorek, G. R.	LARC	Henneke, E. G.	NSG 1238	3720
49	VIRGINIA POLY INST	Davis, J. G., Jr.	LARC	Herakovich, C. T.	NSG 1250	3722
49	VIRGINIA POLY INST	Miserentino, R.	LARC	Hallauer, W. L., Jr.	NSG 1276	3727
49	VIRGINIA POLY INST	Baumeister, K. J.	LERC	Robertson, R. A.	NAS 3-18553	3692
49	WEST VIRGINIA UNIV	Phillips, B.	LERC	Wen, C. Y.	NAS 3-19725	3767
49	YOUNGSTOWN STATE U	Hueschen, R. M.	LARC	Foulkes, R. H., Jr.	NSG 1199	3165
51	ALABAMA A&M UNIV	Downs, S. W., Jr.	MSFC	Sharma, G. C.	NGR 01-001-023	1002
51	ALCORN STATE UNIV	Wolverton, B. C.	NSTL	Latif, A.	NSG 8036	2652
51	AUBURN UNIV-AUBURN	Downs, S. W., Jr.	MSFC	Hagler, T. B.	NAS 8-29856	1018
51	BAYLOR COL OF MED	Homick, J. L.	JSC	Igarashi, M.	NAS 9-14546	3366
51	BAYLOR COL OF MED	Morrison, D. R.	JSC	Twomey, J. J.	NAS 9-14820	3370
51	BISHOP COLLEGE	Danellis, J. V.	ARC	Kutsky, R. J.	NGR 44-032-013	3372
51	BOWLING GRN STATE U	Miquel, J.	ARC	Oster, I. I.	NGR 36-017-004	3077
51	BROOKLYN COLLEGE	Miquel, J.	ARC	Cottrell, S. F.	NCA 2-75602	2845
51	BRYN MAWR COLLEGE	Hoffman, R. A.	JSC	Oppenheimer, J. M.	NAS 9-14640	3195
51	CALIF INST OF TECH	Williams, T. S., Jr.	LARC	Horowitz, N. H.	NAS 1-12311	1187
51	CALIF INST OF TECH	Young, R. S.	HQ-SB	Horowitz, N. H.	NGR 05-002-121	1216
51	CAL STATE U-CHICO	Sanesta, P. D.	ARC	Burleigh, J. R.	NCA 2-110602	1254
51	CAL STATE U-FULLERTN	Zill, L. P.	ARC	Esser, A. E.	NCA 2-253601	1256
51	CAL STATE U-HAYWARD	Zill, L. P.	ARC	Smith, P.	NCA 2-290602	1261
51	CATHOLIC UNIVERSITY	Saunders, J. F.	HQ-SB	Decicco, B. T.	NGR 09-005-022	1836
51	CENTRAL ST UNIV-OHIO	Winget, C. M.	ARC	Nduaguba, J. C.	NSG 2074	3104
51	CENTRAL ST UNIV-OHIO	Raquet, C. A.	LERC	Rubin, D.	NGR 36-033-002	3102
51	CENTRAL ST UNIV-OHIO	Fordyce, J. S.	LERC	Craft, T. J., Sr.	NGR 36-033-003	3103
51	COLLEGE OF WM & MARY	Hoffman, R. A.	JSC	Aceto, H., Jr.	NGR 47-006-054	3585
51	COLORADO STATE UNIV	Holton, E. M.	ARC	Jordan, J. P.	NGR 06-002-075	1738
51	COLORADO STATE UNIV	Hoffman, R. A.	JSC	Lett, J. T.	NGR 06-002-128	1744
51	CORNELL UNIVERSITY	Tremor, J. W.	ARC	Steward, F. C.	NAS 2-7846	2900
51	CORNELL UNIVERSITY	Young, R. S.	HQ-SB	MacDonald, R. E.	NSG 7235	2936
51	EMORY UNIVERSITY	Holton, E. M.	ARC	Popovic, V. P.	NGL 11-001-009	1954
51	EMORY UNIVERSITY	Sandler, H.	ARC	Bourne, G. H.	NGR 11-001-016	1956
51	FLORIDA STATE UNIV	Young, R. S.	HQ-SB	Larock, P. A.	NGR 10-004-041	1908
51	GEORGIA INST OF TECH	Williams, T. S., Jr.	LARC	Hubbard, J. S.	NAS 1-13422	1959
51	GEORGIA INST OF TECH	Young, R. S.	HQ-SB	Hubbard, J. S.	NSG 7069	1998
51	HARDIN-SIMMONS UNIV	Hall, L. B.	HQ-SB	Foster, T. L.	NGR 44-095-001	3373
51	HARVARD UNIVERSITY	Ellis, S.	ARC	Goldberg, A. L.	NSG 2144	2407
51	HOWARD UNIVERSITY	Picciolo, G. L.	GSFC	Okrend, H. H.	NSG 5104	1892
51	INDIANA U-BLOOMINGTN	Weisoman, N. W.	ARC	Neff, W. D.	NGR 15-003-007	2109
51	INDIANA U-INDIANAPLS	Haymaker, W. E.	ARC	Zeman, W.	NAS 2-7927	2112
51	MASS INST OF TECH	Daunton, N. G.	ARC	Bizzi, E.	NGR 22-009-798	2484
51	MASS INST OF TECH	Daunton, N. G.	ARC	Nauta, W. J.	NGR 22-009-826	2488
51	MASS INST OF TECH	Williams, T. S., Jr.	LARC	Rich, A.	NAS 1-9691	2415
51	MASS INST OF TECH	Young, R. S.	HQ-SB	Biemann, K.	NGR 22-009-005	2457
51	MISS VALLEY ST UNIV	Wolverton, B. C.	MSFC	Sethi, S. L.	NSG 8009	2678
51	NORTH GEORGIA COL	Downs, S. W., Jr.	MSFC	Biesbrock, J. A.	NAS 8-30619	2009
51	OREGON STATE UNIV	Nachtwey, D. S.	JSC	Van Dyke, H.	NAS 9-14860	3181
51	PENN STATE U-UNIV PK	Young, R. S.	HQ-SB	Casida, L. E., Jr.	NGR 39-009-180	3244
51	RENSSELAER POLY-NY	Young, R. S.	HQ-SB	Wedler, F. C.	NSG 7065	2985

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
51	RICE UNIVERSITY	Zieglschmid, J. F.	JSC	Ward, C. H.	NAS 9-12912	3389
51	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Auleb, L.	NCA 2-660506	1282
51	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Orenberg, J. B.	NCA 2-660602	1284
51	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Haight, R. D.	NCA 2-675506	1298
51	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Young, W.	NCA 2-675521	1307
51	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Ballard, R.	NCA 2-675603	1310
51	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Theng, R.	NCA 2-675610	1315
51	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Sawrey, J. M.	NCA 2-675615	1320
51	SAN JOSE STATE UNIV	Klein, H. P.	ARC	Neptune, J. A.	NSG 2090	1327
51	SOUTHEASTN OKLA ST U	Bostwick, L. G.	KSC	Robinson, J. L.	NSG 802	3172
51	SO ILL UNIV-CARBONDL	Young, R. S.	HQ-SB	Yopp, J. H.	NGR 14-008-026	2050
51	STANFORD UNIVERSITY	Miquel, J.	ARC	Bensch, K. G.	NAS 2-6706	1335
51	STANFORD UNIVERSITY	Zill, L. P.	ARC	Berger, P. A.	NCA 2-745521	1369
51	STANFORD UNIVERSITY	Williams, T. S., Jr.	LARC	Lederberg, J.	NAS 1-9692	1333
51	STANFORD UNIVERSITY	Young, R. S.	HQ-SB	Lederberg, J.	NGR 05-020-004	1394
[illegible]	STATE UNIV NY-ALBANY	Rummel, J. A.	JSC	Farhi, L. E.	NSG 9028	2997
[illegible]	STATE UNIV NY-BUFFAL	Allen, R. E.	MSFC	Bigazzi, P. E.	NAS 8-31292	2998
51	STATE U NY-STONY BRK	Tremor, J. W.	ARC	Steward, F. C.	NAS 2-8986	3005
51	TEMPLE UNIVERSITY	Nachtwey, D. S.	JSC	Urback, F.	NAS 9-14979	3262
51	TEXAS TECH UNIV	Holton, E. M.	ARC	Kenny, A. D.	NSG 2137	3443
51	TULANE UNIVERSITY	Zill, L. P.	ARC	Brizzee, K. R.	NCA 2-800402	2259
51	UNIV ALA-HUNTSVILLE	Morton, R. R.	MSFC	Rossing, L. M.	NAS 8-30772	1051
51	UNIV OF ARIZONA	Harwell, R. J.	MSFC	Bartels, P. H.	NAS 8-31948	1112
51	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Nicoll, C. S.	NCA 2-50509	1460
51	UNIV CALIF-BERKELEY	Lanyi, J. K.	ARC	Packer, L.	NCA 2-50607	1465
51	UNIV CALIF-DAVIS	Taketa, S. T.	ARC	Mazelis, M.	NAS 2-8685	1511
51	UNIV CALIF-DAVIS	Zill, L. P.	ARC	Evans, J. W.	NCA 2-180505	1520
51	UNIV CALIF-DAVIS	Oyama, J.	ARC	Smith, A. H.	NGL 05-004-008	1525
51	UNIV CALIF-DAVIS	Holton, E. M.	ARC	Horowitz, J. M.	NGR 05-004-099	1527
51	UNIV CALIF-L ANGELES	Zill, L. P.	ARC	Parlow, A.	NCA 2-390601	1551
51	UNIV CALIF-L ANGELES	Daunton, N. G.	ARC	Markham, C. H.	NGR 05-007-418	1576
51	UNIV CALIF-SAN DIEGO	Young, R. S.	HQ-SB	Yayanos, A. A.	NGR 05-009-213	1626
51	UNIV CALIF-SAN FRAN	Zill, L. P.	ARC	Degroot, J.	NCA 2-665301	1646
51	UNIV CALIF-SAN FRAN	Zill, L. P.	ARC	Dallman, M. F.	NCA 2-665401	1647
51	UNIV CALIF-SAN FRAN	Zill, L. P.	ARC	Aly, R.	NCA 2-665402	1648
51	UNIV CALIF-SAN FRAN	Zill, L. P.	ARC	Dallman, M. F.	NCA 2-665502	1649
51	UNIV CALIF-SAN FRAN	Zill, L. P.	ARC	Aly, R.	NCA 2-665601	1650
51	UNIV CALIF-SAN FRAN	Danellis, J. V.	ARC	Dallman, M. F.	NCA 2-665602	1651
51	UNIV CALIF-SAN FRAN	Young, R. S.	HQ-SB	Stoeckenius, W.	NSG 7151	1653
51	UNIV CALIF-S BARBARA	Zill, L. P.	ARC	Rochelle, R. H.	NCA 2-680601	1655
51	UNIV OF CHICAGO	Daunton, N. G.	ARC	Goldberg, J. M.	NGR 14-001-225	2069
51	UNIV OF HAWAII-MANOA	Taketa, S. T.	ARC	Siegel, S. M.	NAS 2-8687	2018
51	UNIV OF HAWAII-MANOA	Young, R. S.	HQ-SB	Siegel, S. M.	NGL 12-001-042	2025
51	UNIV HOUSTON-HOUSTON	Ginoza, H. S.	ARC	Allred, J. C.	NAS 2-9072	3445
51	UNIV HOUSTON-HOUSTON	Zill, L. P.	ARC	Bartel, A. H.	NCA 2-295503	3460
51	UNIV HOUSTON-HOUSTON	Zill, L. P.	ARC	Becker, R. S.	NCA 2-295601	3461
51	UNIV HOUSTON-HOUSTON	Hoffman, R. A.	JSC	Hanson, W. B.	NAS 9-13262	3449
51	UNIV HOUSTON-HOUSTON	Graves, R. C.	JSC	Henney, H. R., Jr.	NAS 9-14857	3456
51	UNIV HOUSTON-HOUSTON	Hoffman, R. A.	JSC	Coules, J. R.	NSG 9042	3474
51	UNIV ILLINOIS-URBANA	Williams, B. A.	ARC	Heath, J. E.	NSG 2099	2089
51	UNIV OF LOUISVILLE	Mehler, W. R.	ARC	Fuller, P. M.	NSG 2067	2236
51	UNIV OF LOUISVILLE	Hoffman, R. A.	JSC	Keefe, J. R.	NAS 9-14632	2234
51	U MINN-MNPLS-ST PAUL	Hall, L. B.	HQ-SB	Straub, C. P.	NGL 24-005-160	2629
51	UNIV MO-COLUMBIA	Holton, E. M.	ARC	Musacchia, X. J.	NGL 26-004-021	2694
51	UNIV OF NEW MEXICO	Zill, L. P.	ARC	Riedesel, M. L.	NCA 2-510502	2820
51	UNIV ORGEON-HLTH CTR	Allen, R. E.	MSFC	Knox, R. J.	NAS 8-30887	3192
51	UNIV ORGEON-HLTH CTR	Ives, R. E.	MSFC	Brooks, D. E.	NAS 8-31899	3194
51	UNIV OF PENNSYLVANIA	Zill, L. P.	ARC	Brown, A. H.	NAS 2-7730	3263

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
51	UNIV OF PENNSYLVANIA	Zill, L. P.	ARC	Brown, A. H.	NGR 39-010-149	3266
51	UNIV OF PENNSYLVANIA	Horrigan, D. J.	JSC	Lambertson, C. J.	NSG 9011	3270
51	UNIV OF ROCHESTER	Young, R. S.	HQ-SB	Hempfling, W. P.	NGR 33-019-002	3036
51	UNIV SAN FRANCISCO	Zill, L. P.	ARC	Furst, A.	NCA 2-670501	1668
51	UNIV SAN FRANCISCO	Miquel, J.	ARC	Benton, E. V.	NSG 2063	1672
51	UNIV SAN FRANCISCO	Bailey, J. V.	JSC	Benton, E. V.	NAS 9-12466	1666
51	UNIV SAN FRANCISCO	Taylor, G. R.	JSC	Benton, E. V.	NAS 9-14396	1667
51	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Tomlinson, G. A.	NCA 2-685509	1683
51	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Sweeney, M. A.	NCA 2-685603	1686
51	UNIV SO CAROLINA-COL	Young, R. S.	HQ-SB	Rohlfing, D. L.	NSG 7096	3313
51	UNIV SO MISSISSIPPI	Stocks, P.	NSTL	Wolverton, V. C.	NAS13-23	2680
51	UNIV OF UTAH	Zill, L. P.	ARC	Smith, L. M.	NCA 2-821601	3564
51	UNIV OF VIRGINIA	Mehler, W. R.	ARC	Ebbesson, S. O.	NGR 47-005-186	3672
51	UNIV OF VIRGINIA	Oyama, J.	ARC	Pitts, G. C.	NGR 47-005-213	3675
51	UNIV OF WASHINGTON	Geib, D. S.	HQ-SB	Gordon, M. P.	NGR 48-002-130	3751
51	UNIV WISC-MADISON	Taketa, S. T.	ARC	Tibbetts, T. W.	NAS 2-7314	3772
51	UTAH STATE UNIV	Nachtwey, D. S.	JSC	Caldwell, M. M.	NAS 9-14871	3574
51	VASSAR COLLEGE	Zill, L. P.	ARC	Christensen, C.	NCA 2-823501	3040
51	VIRGINIA COMNWLTH U	Wilkins, J. R.	LARC	Dalton, H. P.	NGL 47-002-020	3686
51	VIRGINIA COMNWLTH U	Saunders, J. F.	HQ-SB	Ham, W. T.	NGL 47-002-005	3685
51	WASHINGTON UNIVERSTY	Hoffman, R. A.	JSC	Pickard, B. G.	NSG 9035	2718
51	WORCESTER POLY INST	Young, R. S.	HQ-SB	Danielli, J. F.	NSG 7154	2542
51	XAVIER UNIV-LA	Winget, C. M.	ARC	Ashman, P. U.	NGR 19-007-004	2266
51	YALE UNIVERSITY	Young, R. S.	HQ-SB	Morowitz, H. J.	NGR 07-004-009	1826
51	OREGON GRADUATE CTR	Zill, L. P.	ARC	Swanson, L. W.	NCA 2-585501	3177
51	OREGON GRADUATE CTR	Zill, L. P.	ARC	Swanson, L. W.	NCA 2-585601	3178
52	BAYLOR COL OF MED	Leach, C. S.	JSC	Campbell, B. O.	NAS 9-10537	3356
52	BAYLOR COL OF MED	Kimzey, S. L.	JSC	Criswell, B. S.	NAS 9-14322	3361
52	BAYLOR COL OF MED	Kaplan, H. L.	JSC	Duncan, W. C.	NAS 9-14407	3364
52	BAYLOR COL OF MED	Kimzey, S. L.	JSC	Johnson, P. C.	NAS 9-14662	3368
52	BOSTON UNIVERSITY	Arnoldi, L. B.	HQ-QG	Hershberg, P. I.	NSG 7063	2377
52	FEDERAL CITY COLLEGE	Alterescu, S.	GSFC	Friedman, C.	NGR 09-050-013	1850
52	GALLAUDET COLLEGE	Chen, W. T.	GSFC	Tobin, H.	NSG 5019	1854
52	HARVARD UNIVERSITY	Young, D. R.	ARC	Tashjian, A. H., Jr.	NGR 22-007-256	2398
52	HOWARD UNIVERSITY	Chen, W.	GSFC	Fischmann, E. J.	NGR 09-011-055	1882
52	INDIANA U-BLOOMINGTN	Vinograd, S. P.	HQ-SB	Maickel, R. P.	NGL 15-003-117	2108
52	LINCOLN UNIV-PA	Alterescu, S.	GSFC	Frankowsky, J. W.	NSG 5008	3226
52	MOREHOUSE COLLEGE	Alterescu, S.	GSFC	Norris, T. E.	NAS 5-23571	2001
52	OHIO STATE UNIV	Carter, C. H.	HQ-P	Ellingson, H. V.	NGT 36-008-007	3126
52	STANFORD UNIVERSITY	Sandler, H.	ARC	Harrison, D. C.	NGL 05-020-305	1389
52	STANFORD UNIVERSITY	Danellis, J. V.	ARC	Luetscher, J. A.	NGR 05-020-456	1401
52	STANFORD UNIVERSITY	Sandler, H.	ARC	Harrison, D. C.	NGR 05-020-634	1407
52	STANFORD UNIVERSITY	Sandler, H.	ARC	Popp, R.	NSG 2020	1420
52	STANFORD UNIVERSITY	Sandler, H.	ARC	Harrison, D. C.	NSG 2132	1431
52	STANFORD UNIVERSITY	Dolkas, C. B.	ARC	Olefsky, J. M.	NSG 2141	1432
52	ST U NY-DNST MED CTR	Chen, W. T.	GSFC	Fealey, R. D.	NAS 5-22277	3027
52	UNIV CALIF-DAVIS	Zill, L. P.	ARC	Bernauer, E. M.	NCA 2-180601	1522
52	UNIV CALIF-DAVIS	Smith, M. C., Jr.	JSC	Vogel, J. M.	NAS 9-13589	1514
52	UNIV CALIF-IRVINE	Mandel, A. D.	ARC	Tilles, J. G.	NGR 05-041-012	1529
52	UNIV CALIF-SAN DIEGO	Sandler, H.	ARC	Baily, N. A.	NGR 05-009-257	1631
52	UNIV HOUSTON-HOUSTON	Schneider, H. J.	JSC	Zlatkis, A.	NAS 9-14629	3454
52	UNIV OF MIAMI	Leach, C. S.	JSC	Epstein, M.	NGR 10-007-097	1943
52	UNIV SAN FRANCISCO	Zill, L. P.	ARC	Furst, A.	NCA 2-670503	1669
52	UNIV TEXAS-GALVESTON	Sandler, H.	ARC	Stone, H. L.	NGR 44-088-002	3546
52	U TEX HEALTH CTR-DAL	Hoffler, G. W.	JSC	Blomquist, C. G.	NSG 9026	3547
52	UNIV OF VIRGINIA	Zill, L. P.	ARC	Updike, O. L.	NCA 2-[illegible]25501	3667
52	UNIV WISC-MADISON	Young, D. R.	ARC	Cameron, J. R.	NGR 50-002-051	3792
52	UNIV WISC-MADISON	Mandel, A. D.	ARC	Balish, E.	NGR 50-002-191	3795

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
52	UNIV WISC-MADISON	Mandel, A. D.	ARC	Dick, E. C.	NSG 2002	3799
52	UNIV WISC-MADISON	Mandel, A. D.	ARC	Dick, E.	NSG 2104	3800
53	BAYLOR COL OF MED	Shumate, W. H.	JSC	Roessler, R.	NAS 9-13452	3358
53	BAYLOR COL OF MED	Smith, M. C., Jr.	JSC	Johnson, P. C.	NAS 9-13737	3360
53	BAYLOR COL OF MED	Kimzey, S. L.	JSC	Rich, R. R.	NAS 9-14368	3362
53	BAYLOR COL OF MED	Kimzey, S. L.	JSC	Martin, R. R.	NAS 9-14406	3363
53	BAYLOR COL OF MED	Kimzey, S. L.	JSC	Criswell, B. S.	NAS 9-14468	3365
53	BAYLOR COL OF MED	Kimzey, S. L.	JSC	Gentry, L. O.	NAS 9-14603	3367
53	BAYLOR COL OF MED	Hoffler, G. W.	JSC	Alexander, J. K.	NAS 9-15046	3371
53	COLUMBIA UNIVERSITY	Rambaut, P. C.	JSC	Bassett, C. A.	NAS 9-14931	2874
53	CORNELL UNIV-MED CTR	Sandler, H.	ARC	Reis, D. J.	NGR 33-010-179	2939
53	HARDING COLLEGE	Rummel, J. A.	JSC	Olree, H. D.	NAS 9-14921	1173
53	HOWARD UNIVERSITY	Sandler, H.	ARC	Hawthorne, E. W.	NGL 09-011-017	1879
53	HOWARD UNIVERSITY	Alterescu, S.	GSFC	Shepard, J.	NSG 5016	1888
53	HOWARD UNIVERSITY	Alterescu, S.	GSFC	Deloatch, E. M.	NSG 5081	1891
53	MASS INST OF TECH	Winget, C. M.	ARC	Wurtman, R. J.	NGR 22-009-627	2468
53	MASS INST OF TECH	Heidelbaugh, N. D.	JSC	Flink, J. M.	NAS 9-12485	2441
53	PENN STATE U-UNIV PK	Keil, L. C.	ARC	Severs, W. B.	NSG 2122	3252
53	RICE UNIVERSITY	Taketa, S. T.	ARC	Ward, C. H.	NAS 2-8676	3381
53	ST LOUIS UNIVERSITY	Greenleaf, J. E.	ARC	Van Beaumont, W.	NGR 26-006-039	2685
53	ST LOUIS UNIVERSITY	Anliker, J. E.	ARC	Van Beaumont, W.	NSG 2023	2687
53	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Sawrey, J. M.	NCA 2-675511	1300
53	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Tseng, R.	NCA 2-675515	1304
53	STANFORD UNIVERSITY	Zill, L. P.	ARC	Pribram, K. H.	NCA 2-745414	1350
53	STANFORD UNIVERSITY	Zill, L. P.	ARC	Atkinson, R. C.	NCA 2-745418	1351
53	STANFORD UNIVERSITY	Zill, L. P.	ARC	Barchas, J. D.	NCA 2-745503	1353
53	STANFORD UNIVERSITY	Zill, L. P.	ARC	Steele, C. R.	NCA 2-745504	1354
53	STANFORD UNIVERSITY	Zill, L. P.	ARC	Mathers, L.	NCA 2-745508	1356
53	STANFORD UNIVERSITY	Zill, L. P.	ARC	Reaven, G. M.	NCA 2-745509	1357
53	STANFORD UNIVERSITY	Zill, L. P.	ARC	Pribram, K. H.	NCA 2-745516	1364
53	STANFORD UNIVERSITY	Sandler, H.	ARC	Beaver, W. L.	NGR 05-020-615	1404
53	STANFORD UNIVERSITY	Sandler, H.	ARC	Angell, J.	NGR 05-020-690	1412
53	STANFORD UNIVERSITY	Young, D. R.	ARC	Steele, C. R.	NSG 2092	1427
53	STANFORD UNIVERSITY	Rummel, J. A.	JSC	Lederberg, J.	NGR 05-020-632	1406
53	TEXAS TECH UNIV	Day, J. L.	JSC	Portnoy, W. M.	NAS 9-14438	3442
53	TUFTS UNIVERSITY	Jackson, M. M.	JSC	Spodick, D. H.	NGR 22-012-026	2531
53	TULANE UNIVERSITY	Zill, L. P.	ARC	Brizzee, K. R.	NCA 2-800501	2260
53	TULANE UNIVERSITY	Mehler, W. R.	ARC	Brizzee, K. R.	NSG 2139	2264
53	UNIV CALIF-DAVIS	Zill, L. P.	ARC	Baldwin, R. L.	NCA 2-180501	1516
53	UNIV CALIF-L ANGELES	Zill, L. P.	ARC	Parlow, A.	NCA 2-390502	1549
53	UNIV CALIF-SAN DIEGO	Billingham, J.	ARC	West, J. B.	NGL 05-009-109	1612
53	UNIV HOUSTON-HOUSTON	Schneider, H. J.	JSC	Zlatkis, A.	NAS 9-14534	3453
53	UNIV ILLINOIS-URBANA	Mehler, W. R.	ARC	Ades, H. W.	NGR 14-005-221	2085
53	UNIV MARYLAND-BALT	Sharp, J. C.	ARC	Grenell, R. G.	NSG 2098	2298
53	UNIV SAN FRANCISCO	Zill, L. P.	ARC	Furst, A.	NCA 2-670504	1670
53	UNIV TEXAS-GALVESTON	Kimzey, S. L.	JSC	Lockhart, L. H.	NAS 9-13102	3544
53	U TEX HEALTH CTR-SA	Hoffler, G. W.	JSC	Earley, L. E.	NGR 44-094-003	3548
53	UNIV OF TORONTO	Halstead, T. W.	HQ-SB	Johnson, W. H.	NSG 7079	3815
53	UNIV OF WASHINGTON	Holton, E. M.	ARC	Baylink, D. J.	NAS 2-8541	3737
53	UNIV WISC-MADISON	Friedman, D. S.	GSFC	Houston, N.	NAS 5-23500	3784
53	UPPSALA UNIVERSITY	Kimball, W. L.	ARC	Engstrom, H.	NGR 52-028-004	3826
53	WAYNE STATE UNIV	Young, D. R.	ARC	Orne, D.	NSG 2008	2609
53	WRIGHT STATE UNIV	Winget, C. M.	ARC	Beljan, J. R.	NAS 2-8578	3163
53	WRIGHT STATE UNIV	Young, D. R.	ARC	Beljan, J. R.	NSG 2034	3164
59	ALABAMA A&M UNIV	Pohly, J. G.	HQ-P	Lee, C. O.	NGR 01-001-003	1001
59	BAYLOR COL OF MED	Leach, C. S.	JSC	Johnson, P. C.	NAS 9-11201	3357
59	BAYLOR COL OF MED	Leach, C. S.	JSC	Di Ferrante, N.	NAS 9-13540	3359
59	BAYLOR COL OF MED	Leach, C. S.	JSC	Suki, W. N.	NAS 9-14715	3369

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
59	BOSTON UNIVERSITY	Larson, C. A.	HQ-SB	Fulton, G. P.	NGR 22-004-018	2373
59	CALIF INST OF TECH	Chang, S.	ARC	Horowitz, N. H.	NGR 05-002-308	1226
59	CASE WESTERN RESERVE	Fryer, T. B.	ARC	Ko, W. H.	NGR 36-027-058	3085
59	CLARKSON COL OF TECH	Halstead, T. W.	HQ-SB	McNulty, P. J.	NSG 7170	2862
59	COLLEGE OF WM & MARY	Jones, W. L.	HQ-SB	Aceto, H., Jr.	NSG 7073	3590
59	COLORADO STATE UNIV	Tremor, J. W.	ARC	Baker, R.	NAS 2-6615	1722
59	EMORY UNIVERSITY	Daunton, N. G.	ARC	Perachio, A. A.	NGR 11-001-045	1957
59	FLORIDA A&M UNIV	Winget, C. M.	ARC	Walker, C. A.	NSG 2029	1901
59	FLORIDA A&M UNIV	Winget, C. M.	ARC	Lamba, S. S.	NSG 2103	1902
59	FLORIDA A&M UNIV	Malone, J. E.	KSC	Harrell, B. E.	NSG 805	1899
59	GEORGE WASHINGTON U	Baker, C. E.	LERC	Schiff, H. I.	NSR 09-010-027	1875
59	GEORGE WASHINGTON U	Hall, L. B.	HQ-SB	Unavailable	NASW 2768	1856
59	HAHNEMANN MED COL	Picciolo, G. L.	GSFC	Gutekunst, R. R.	NAS 5-20865	3210
59	HOWARD UNIVERSITY	Pohly, J. G.	HQ-P	Deloatch, E. M.	NGT 09-011-051	1884
59	KENTUCKY STATE UNIV	Morrison, J. D.	KSC	Kloek, G.	NSG 801	2222
59	LA STATE U-BAT ROUGE	Rusoff, L. L.	NSTL	Wolverton, V. C.	NAS13-38	2245
59	MASS INST OF TECH	Daunton, N. G.	ARC	Young, L. R.	NSG 2032	2499
59	MIAMI UNIVERSITY	Homick, J. L.	JSC	Parker, D. E.	NAS 9-14538	3108
59	MISSISSIPPI STATE U	Unavailable	NSTL	Unavailable	NAS13-21	2666
59	NORFOLK STATE COL	Dempsey, T. K.	LARC	Colegate, R. L.	NSG 1074	3603
59	OHIO STATE UNIV	Mehler, W. R.	ARC	Lim, D.	NGR 36-008-211	3125
59	PURDUE UNIVERSITY	Stonesifer, G. R.	GSFC	Bauer, M. E.	NAS 5-20793	2114
59	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Chealano, G. T.	NCA 2-660601	1283
59	SAN JOSE STATE UNIV	Zill, L. P.	ARC	West, M. W.	NCA 2-675304	1288
59	SO UNIV-BATON ROUGE	Sandler, H.	ARC	Ray, G.	NSG 2041	2253
59	STANFORD UNIVERSITY	Mehler, W. R.	ARC	Chow, K. L.	NGR 05-020-435	1399
59	STANFORD UNIVERSITY	Leach, C. S.	JSC	Davidson, J. M.	NAS 9-14716	1348
59	STANFORD UNIVERSITY	Young, R. S.	HQ-SB	Bonner, W. A.	NGL 05-020-582	1392
59	ST U NY-UPST MED CTR	Leach, C. S.	JSC	Miller, M.	NAS 9-11846	3028
59	TEXAS A&M UNIVERSITY	Stonesifer, G. R.	GSFC	Rouse, J.	NAS 5-20796	3405
59	TEXAS A&M UNIVERSITY	Smith, M. C., Jr.	JSC	Burns, E. E.	NAS 9-12434	3417
59	UNIV HOUSTON-CL LAKE	Barnes, C. M.	JSC	Schuhmann, R. E.	NAS 9-14874	3475
59	UNIV OF ARIZONA	Kimsey, S. L.	JSC	Bartels, P. H.	NAS 9-14692	1113
59	UNIV CALIF-BERKELEY	Quattrone, P. D.	ARC	Pace, N.	NGL 05-003-024	1468
59	UNIV CALIF-BERKELEY	Newsom, B. D.	ARC	Pace, N.	NGR 05-003-470	1483
59	UNIV CALIF-SAN DIEGO	Anliker, J. E.	ARC	Galambos, R.	NGR 05-009-198	1625
59	UNIV CALIF-SAN FRAN	Zill, L. P.	ARC	Stoeckenius, W.	NGL 05-025-014	1652
59	UNIV COLORADO-BOLDR	Szajna, E. F.	GSFC	Krebs, P.	NAS 5-20948	176[illegible]
59	UNIV HOUSTON-HOUSTON	Smith, M. C., Jr.	JSC	Cox, J. E.	NAS 9-11676	3446
59	UNIV HOUSTON-HOUSTON	Loper, L. R.	JSC	Pitts, D. G.	NAS 9-14384	3452
59	UNIV MARYLAND-COL PK	MacElroy, R. D.	ARC	Ponnamperuma, C. A.	NSG 2109	2347
59	U MINN-MNPLS-ST PAUL	Smith, M. C., Jr.	JSC	Labuza, T. P.	NAS 9-12560	2626
59	UNIV MO-ROLLA	Quattrone, P. D.	ARC	Mills, J. B.	NGR 26-004-097	2702
59	UNIV N CAR-CHPL HILL	Leach, C. S.	JSC	Gitelman, H. J.	NAS 9-14697	3075
59	UNIV ORGEON-HLTH CTR	Harwell, R. J.	MSFC	Brooks, D. E.	NAS 8-31386	3193
59	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Pefley, R. K.	NCA 2-685501	1678
59	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Pefley, R. K.	NCA 2-685605	1687
59	U TEX PUB HLTH-HUS	Vitale, J. A.	HQ-P	Rush, M.	NGL 44-084-003	3549
59	UNIV OF UTAH	Kaplan, H. L.	JSC	Baldwin, R. C.	NAS 9-14809	3562
59	UNIV OF WASHINGTON	Rambaut, P. C.	JSC	Nelp, W. B.	NAS 9-13029	3739
59	UNIV WISC-MADISON	Zimmerman, R. R.	HQ-KT	Unavailable	NASW 2716	3787
59	UNIV WISC-MADISON	O'Handley, D. A.	HQ-KT	Huston, N.	NASW 2819	3788
59	VASSAR COLLEGE	Zill, L. P.	ARC	Christensen, C.	NCA 2-823601	3041
61	CAL STATE U-HAYWARD	Zill, L. P.	ARC	Sieber, J. E.	NCA 2-290401	1258
61	EMORY UNIVERSITY	Winter, D. L.	ARC	Perachio, A. A.	NGR 11-001-012	1955
61	UNIV CALIF-DAVIS	Zill, L. P.	ARC	Chapman, L. F.	NCA 2-180504	1519
61	UNIV CALIF-DAVIS	Zill, L. P.	ARC	Bernauer, E. M.	NCA 2-180506	1521
61	UNIV CALIF-SAN DIEGO	Winter, D. L.	ARC	Galambos, R.	NGR 05-009-083	1621

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
61	UNIV MICH-ANN ARBOR	Simmonds, R. C.	ARC	Von Baumgarten A, R. J.	NAS 2-6057	2550
62	JOHNS HOPKINS UNIV	Patton, R. M.	ARC	Brady, J. V.	NGR 21-001-111	2283
62	WESTERN NEW MEXICO U	Bourke, R. D.	JPL	Lundahl, C. R.	NSG 902	2840
69	COLUMBIA UNIVERSITY	Cawthorn, J. M.	LARC	Galanter, E.	NSG 1115	2886
69	HAMPTON INSTITUTE	Catherines, J. J.	LARC	Duncan, N. C.	NSG 1011	3597
69	MASS INST OF TECH	Daunton, N. G.	ARC	Teuber, H. L.	NGL 22-009-308	2451
69	NO CAROLINA STATE U	Mayes, W. H.	LARC	Levere, T. E.	NGL 34-002-095	3060
69	OHIO STATE UNIV	Lauber, J. K.	ARC	Gilson, R. D.	NAS 2-8954	3110
69	OLD DOMINION UNIV	Dempsey, T. K.	LARC	Coates, G. D.	NSG 1225	3642
69	OLD DOMINION UNIV	Dempsey, T. K.	LARC	Coates, G. D.	NSG 1247	3648
69	SAN JOSE STATE UNIV	Stewart, J. D.	ARC	Clark, W. B.	NGL 05-046-002	1323
69	UNIV ALA-HUNTSVILLE	Tanner, T. A.	ARC	Rogers, J. G.	NSG 2058	1068
69	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Hafter, E. R.	NCA 2-50508	1459
69	UNIV OF FLORIDA	Anliker, J. E.	ARC	Webb, W. B.	NGR 10-005-057	1925
69	UNIV OF LOUISVILLE	Mayes, W. H.	LARC	Loeb, M.	NSG 1220	2235
69	UNIV OF ROCHESTER	Gainer, P. A.	LARC	Brown, J. L.	NSG 1211	3038
69	UNIV TEXAS-AUSTIN	Tanner, T. A.	ARC	Helmreich, R. L.	NSG 2065	3510
69	UNIV TEXAS-GALVESTON	Reschke, M. F.	JSC	Correia, M. J.	NAS 9-14641	3545
72	AUBURN UNIV-AUBURN	McKannan, E. C.	MSFC	Vachon, R. I.	NAS 8-29881	1019
72	BOSTON COLLEGE	Morse, S.	GSFC	Kelley, A. J.	NAS 5-22994	2371
72	COLUMBIA UNIVERSITY.	Morris, J. D.	HQ-P	Ginzberg, E.	NGR 33-008-168	2877
72	NEW YORK UNIVERSITY	Gra[illegible] Z.	HQ-K	Morgenstern, O.	NSG 7169	2958
72	UNIV MARYLAND-COL PK	Alfonsi, P. J.	WFC	Harmon, D. M.	NSG 6010	2362
73	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Brown, D. E.	NCA 2-675401	1290
73	UNIV OF DAYTON	Hein, G. F.	LERC	Engler, N. A.	NAS 3-19699	3147
73	UNIV HOUSTON-HOUSTON	Wright, M. D.	HQ-AD	Unavailable	NASW 2691	3458
75	BROOKLYN COLLEGE	Schnetzler, C. C.	GSFC	Weil, C. B.	NAS 5-20961	2844
75	GEORGE WASHINGTON U	Wright, M. D.	HQ-AD	Logsdon, J. M.	NSG 7145	1874
75	GEORGE WASHINGTON U	Hall, L. B.	HQ-SB	Unavailable	NASW 2890	1857
75	PEPPERDINE UNIV-MLBU	Hornby, H.	ARC	Album, H. J.	NSG 2159	1270
75	STANFORD UNIVERSITY	Barnett, R. M.	ARC	Pederson, C. A.	NAS 2-8898	1336
75	STANFORD UNIVERSITY	Zill, L. P.	ARC	Rosenberg, N.	NCA 2-745604	1373
75	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Buxbaum, R. M.	NCA 2-50502	1456
75	UNIV CALIF-BERKELEY	Zill, L. P.	ARC	Laporte, T.	NCA 2-50603	1462
75	UNIV OF DENVER	Ault, L. A.	HQ-KT	Unavailable	NASW 2607	1806
75	UNIV OF NEW MEXICO	Morris, J. D.	HQ-P	Rosenthal, A. H.	NGL 32-004-042	2830
75	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Bruno, A. V.	NCA 2-685508	1682
75	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Alexander, G. J.	NCA 2-685510	1684
75	W VA COL GRAD STUDY	Rollins, R. H.	HQ-RX	Cobb, W. E.	NSG 7089	3766
79	NORTHWESTERN UNIV	Morris, J. D.	HQ-P	Radnor, M.	NGL 14-007-058	2041
79	SOUTHERN METHODIST U	Tanner, T. A.	ARC	Starling, J.	NSG 2006	3402
79	UNIV CALIF-BERKELEY	Tanner, T. A.	ARC	Laporte, T.	NGR 05-003-471	1484
79	UNIV OF SANTA CLARA	Zill, L. P.	ARC	Alexander, G.	NCA 2-685402	1675
99	BENNETT COLLEGE-NC	Pohly, J. G.	HQ-P	Sayles, J. H.	NGT 34-017-001	3044
99	BROWN UNIVERSITY	Williams, T. S., Jr.	LARC	Mutch, T. A.	NAS 1-9680	3293
99	CHICAGO STATE UNIV	Young, S. G.	LERC	Treptow, R. S.	NSG 3030	2034
99	CAL ST COL-SONOMA	Zill, L. P.	ARC	Anderson, T.	NCA 2-720601	1249
99	CAL STATE U-CHICO	Rich, W. B.	HQ-FE	Unavailable	NASW 2835	1250
99	COLLEGE OF WM & MARY	Martin, D. J.	LARC	Aceto, H., Jr.	NAS 1-11958	3583
99	COLLEGE OF WM & MARY	Anderson, A. F.	LARC	Rublein, G. T.	NGL 47-006-058	3584
99	COLUMBIA UNIVERSITY	Jennings, N.	GSFC	Fountain, T. D.	NAS 5-20023	2863
99	COLUMBIA UNIVERSITY	Guntharp, P. A.	GSFC	Fountain, T. D.	NAS 5-22311	2864
99	COLUMBIA UNIVERSITY	Jennings, N.	GSFC	Lewis, J. P.	NAS 5-22936	2868
99	CORNELL UNIVERSITY	Williams, T. S., Jr.	LARC	Sagan, C. E.	NAS 1-9683	2899
99	CORNELL UNIV-MED CTR	Nerren, B. H.	MSFC	Rubin, A. L.	NAS 8-31513	2938
99	ESTRN SHORE CMTY COL	Milliner, J. B.	WFC	Unavailable	NAS 6-2707	3591
99	GEORGE WASHINGTON U	Straeter, T. A.	LARC	Maurer, W. D.	NSG 1170	1868
99	GEORGIA INST OF TECH	Kerr, J. H.	MSFC	Shackelford, R. G.	NAS 8-30534	1970

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
99	GOUCHER COLLEGE	Pohly, J. G.	HQ-P	Billet, J.	NGT 21-123-001	2277
99	HOWARD UNIVERSITY	Monroe, R.	HQ-U	Unavailable	NASW 2906	1877
99	INDIANA U-BLOOMINGTN	Holley, H. L.	HQ-KT	Shriner, H.	NASW 2467	2102
99	INDIANA U-BLOOMINGTN	Holley, H. L.	HQ-KT	Shriner, H.	NASW 2714	2103
99	INDIANA U-BLOOMINGTN	Bivins, R. G.	HQ-KT	Shriner, R. D.	NASW 2845	2104
99	MASS INST OF TECH	Wempe, T. E.	ARC	Sheridan, T. B.	NSG 2118	2502
99	MASS INST OF TECH	Clark, T. A.	GSFC	Counselman, C. C., III	NGR 22-009-839	2489
99	MASS INST OF TECH	Williams, T. S., Jr.	LARC	Shapiro, I. I.	NAS 1-9702	2416
99	MASS INST OF TECH	O'Neal, R. L.	LARC	McCarthy, J. F., Jr.	NSG 1299	2497
99	MASS INST OF TECH	Carter, C. H.	HQ-P	Harrington, J. V.	NGL 22-009-019	2447
99	MASS INST OF TECH	Carter, C. H.	HQ-P	McCarthy, J. F., Jr.	NGL 22-009-638	2455
99	MOREHOUSE COLLEGE	Pohly, J. G.	HQ-P	Gayles, J. N.	NGT 11-008-004	2003
99	MORGAN STATE UNIV	Shorter, C. W.	GSFC	Collagan, R. B.	NGR 21-025-011	2294
99	NM HIGHLANDS UNIV	Pohly, J. G.	HQ-P	Zenick, H.	NGT 32-010-001	2794
99	NEW MEX ST U-LAS CR	Van Ess, J. C.	ARC	Weinberg, J. L.	NAS 2-8496	2802
99	NORTHWESTERN UNIV	Keller, S. W.	HQ-Q	Radnor, M.	NGR 14-007-136	2046
99	OHIO STATE UNIV	Dibattista, J. D.	LARC	Nerem, R. M.	NSG 1212	3128
99	OKLAHOMA STATE UNIV	Miller, S. A.	ARC	Wiggins, K. E.	NAS 2-7273	3166
99	OKLAHOMA STATE UNIV	Collin, E. E.	HQ-FE	Wiggins, K. E.	NASW 964	3167
99	OLD DOMINION UNIV	Martin, D. J.	LARC	Ousterhout, D. S.	NAS 1-9434	3604
99	OLD DOMINION UNIV	Whitlock, C. H.	LARC	Kuo, C. Y.	NAS 1-14193	3607
99	OLD DOMINION UNIV	Tynan, C. L., Jr.	LARC	Goglia, G. L.	NSG 1186	3639
99	PENN STATE U-UNIV PK	Carter, C. H.	HQ-P	Reethof, G.	NGT 39-009-141	3248
99	PRINCETON UNIVERSITY	Johnson, R. D.	ARC	O'Neill, G. K.	NSG 2062	2783
99	PRINCETON UNIVERSITY	Sanchez, E. L.	HQ-RM	Dowell, E. H.	NSG 7131	2790
99	SAN FRAN STATE UNIV	Zill, L. P.	ARC	Eisenberg, L.	NCA 2-660501	1278
99	SAN JOSE STATE UNIV	Eddy, R. E.	ARC	Neidleman, L. D.	NAS 2-8983	1287
99	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Monge, P. R.	NCA 2-675512	1301
99	SAN JOSE STATE UNIV	Zill, L. P.	ARC	Pefley, R. K.	NCA 2-675605	1311
99	SHAW UNIVERSITY	Dixon, J. T.	HQ-U	Unavailable	NASW 2793	3072
99	SOUTHEASTN OKLA ST U	Holley, H. L.	HQ-KT	Gold, H.	NASW 2512	3168
99	SOUTHEASTN OKLA ST U	Holley, H. L.	HQ-KT	Unavailable	NASW 2629	3169
99	SOUTHEASTN OKLA ST U	Bivins, R. G.	HQ-KT	Gold, C. H.	NASW 2881	3170
99	SOUTHEASTN OKLA ST U	Pohly, J. G.	HQ-P	Robinson, J. L.	NGT 37-004-010	3171
99	SPELMAN COLLEGE	Pohly, J. G.	HQ-P	McBay, S. M.	NGT 11-013-001	2012
99	STANFORD UNIVERSITY	Zill, L. P.	ARC	Pederson, C. A.	NCA 2-745426	1352
99	STANFORD UNIVERSITY	Williams, T. S., Jr.	LARC	Levinthal, E. C.	NAS 1-9682	1332
99	TUFTS UNIVERSITY	Wempe, T. E.	ARC	Kreifieldt, J. G.	NSG 2156	2532
99	UNIV ALA-HUNTSVILLE	Urban, E. W.	MSFC	Hendricks, J. B.	NAS 8-29316	1047
99	UNIV ALA-HUNTSVILLE	Carter, C. H.	HQ-P	Rush, J. E.	NGL 01-008-001	1065
99	UNIV CALIF-BERKELEY	Carter, C. H.	HQ-P	Anderson, K. A.	NGL 05-003-497	1474
99	UNIV CALIF-L ANGELES	Redding, E. R.	HQ-P	Libby, W. F.	NGL 05-007-003	1554
99	UNIV OF CHICAGO	Carter, C. H.	HQ-P	Simpson, J. A.	NGL 14-001-258	2062
99	UNIV OF CHILE	Lafleur, W.	GSFC	Danyau, C. R.	NAS 5-1925	3818
99	UNIV OF CONNECTICUT	Friedman, D. S.	GSFC	Wilde, D. U.	NAS 5-22539	1817
99	UNIV OF CONNECTICUT	Holley, H. L.	HQ-KT	Wilde, D. U.	NASW 2516	1818
99	UNIV OF DENVER	Ault, L. A.	HQ-KT	Freeman, J. E.	NASW 2766	1807
99	UNIV OF DENVER	Ault, L. A.	HQ-KT	Johnson, F. D.	NASW 2892	1808
99	UNIV OF GEORGIA	Harrison, J. O.	HQ-KT	Unavailable	NASW 2658	2014
99	UNIV OF GEORGIA	Harrison, J. O.	HQ-KT	Carmon, J. L.	NASW 2820	2015
99	UNIV OF HAWAII-MANOA	Smith, M. C., Jr.	ARC	Kuo, F. F.	NAS 2-8590	2017
99	UNIV ILLINOIS-URBANA	Wempe, T. E.	ARC	Rouse, W. B.	NSG 2119	2090
99	UNIV MARYLAND-COL PK	Fitzmaurice, M. W.	GSFC	Alley, C. O.	NSG 5062	2355
99	UNIV MD-EASTRN SHORE	Floyd, J. C.	WFC	Unavailable	NAS 6-2595	2366
99	UNIV MD-EASTRN SHORE	Oberholtzer, J. D.	WFC	Wutoh, J. G.	NSG 6006	2370
99	U MINN-MNPLS-ST PAUL	Williams, T. S., Jr.	LARC	Nier, A. O.	NAS 1-9697	2614
99	U MINN-MNPLS-ST PAUL	Carter, C. H.	HQ-P	Anderson, G. W.	NGT 24-005-078	2638
99	UNIV OF NEW MEXICO	Holley, H. L.	HQ-KT	Shinnick W. A.	NASW 2399	2817

NASA'S UNIVERSITY PROGRAM
APPENDIX B CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC	FIRST PRINCIPAL INVESTIGATOR	GRANT/ CONTRACT NUMBER	ACC NO.
99	UNIV OF NEW MEXICO	Bivins, R. G.	HQ-KT	Unavailable	NASW 2633	2818
99	UNIV OF NEW MEXICO	Bivins, R. G.	HQ-KT	Unavailable	NASW 2805	2819
99	UNIV OF PITTSBURGH	Holley, H. L.	HQ-KT	Holley, E.	NASW 2425	3274
99	UNIV OF PITTSBURGH	Holley, H. L.	HQ-KT	Unavailable	NASW 2674	3275
99	UNIV OF PITTSBURGH	Bivins, R. G.	HQ-KT	Unavailable	NASW 2838	3276
99	UNIV OF SANTA CLARA	Walsh, L. J.	ARC	Bruno, A. V.	NSG 2036	1697
99	UNIV OF SANTA CLARA	Billingham, J.	ARC	Stull, M. A.	NSG 2153	1701
99	UNIV OF SOUTHERN CAL	Holley, H. L.	HQ-KT	Unavailable	NASW 2771	1709
99	UNIV TEXAS-DALLAS	Williams, T. S., Jr.	LARC	Hanson, W. B.	NAS 1-9699	3571
99	UNIV TEXAS-DALLAS	Carter, C. H.	HQ-P	Johnson, F. S.	NGL 44-004-130	3530
99	UNIV OF VIRGINIA	Morse, S.	GSFC	Gibson, J.	NAS 5-23496	3666
99	UNIV OF VIRGINIA	Martin, D. J.	LARC	Barnes, D. W.	NAS 1-12754	3663
99	WASHINGTON UNIVERSTY	Quann, J. J.	GSFC	Morgan, R. P.	NAS 5-20680	2707
99	WASHINGTON UNIVERSTY	Redding, E. R.	HQ-P	Morgan, R. P.	NGL 26-008-054	2709

NASA'S UNIVERSITY PROGRAM
APPENDIX C
CROSS INDEX BY FIRST TECHNICAL OFFICER LOCATION

Technical Officers are usually located at the NASA installation funding a particular grant or contract. There may be a second technical officer, shown in the citation, at the same or a different installation. Abbreviations used for locations are: ARC, Ames Research Center; DFRC, Dryden Flight Research Center; GSFC, Goddard Space Flight Center; KSC, Kennedy Space Center, JSC, Johnson Space Center; LARC, Langley Research Center; LERC, Lewis Research Center; MSFC, Marshall Space Flight Center; National Space Technology Laboratories, NSTL; WFC, Wallops Flight Center and HQ, Headquarters. The HQ designator carries suffixed letters identifying individual Headquarters offices; an explanation of these identifiers and full addresses for all installations may be found in the prefatory pages. The key for the "Field Code" column is in Appendix B.

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Buell, D. A.	ADELPHI UNIVERSITY	NSG 2088	Steinmetz, W. J.	12	2842
ARC	Zill, L. P.	ARIZONA STATE UNIV	NCA 2-35601	Yuen, G. U.	12	1093
ARC	Bunch, T.	ARIZONA STATE UNIV	NCA 2-35602	Moore, C. B.	32	1094
ARC	Danellis, J. V.	BISHOP COLLEGE	NGR 44-032-013	Kutsky, R. J.	51	3372
ARC	Miquel, J.	BOWLING GRN STATE U	NGR 36-017-004	Oster, I. I.	51	3077
ARC	Hall, C. F.	BRIGHAM YOUNG UNIV	NAS 2-7358	Jones, D. E.	13	3551
ARC	Dyal, P.	BRIGHAM YOUNG UNIV	NGR 45-001-040	Jones, D. E.	13	3555
ARC	Miquel, J.	BROOKLYN COLLEGE	NCA 2-75602	Cottrell, S. F.	51	2845
ARC	Hall, C. F.	CALIF INST OF TECH	NAS 2-6556	Munch, G.	11	1188
ARC	Olson, L. E.	CALIF INST OF TECH	NGL 05-002-229	Coles, D. E.	41	1212
ARC	Cameron, R. M.	CALIF INST OF TECH	NGR 05-002-281	Werner, M. W.	11	1221
ARC	Chang, S.	CALIF INST OF TECH	NGR 05-002-308	Horowitz, N. H.	59	1226
ARC	Wydeven, T., Jr.	CALIF INST OF TECH	NSG 2154	Shair, F.	12	1233
ARC	Maisel, M. D.	CAL POLY ST U-S LUIS	NCA 2-678601	Grimes, J. E.	21	1248
ARC	Zill, L. P.	CAL ST COL-SONOMA	NCA 2-720601	Anderson, T.	99	1249
ARC	Zill, L. P.	CAL STATE U-CHICO	NCA 2-110502	Huntsinger, R.	41	1251
ARC	Zill, L. P.	CAL STATE U-CHICO	NCA 2-110504	Sours, C. F.	41	1252
ARC	Zill, L. P.	CAL STATE U-CHICO	NCA 2-110601	Zeilenga, J. H.	11	1253
ARC	Sanesta, P. D.	CAL STATE U-CHICO	NCA 2-110602	Burleigh, J. R.	51	1254
ARC	Kourtides, D. A.	CAL STATE U-CHICO	NSG 2163	Sours, R.	12	1255
ARC	Zill, L. P.	CAL STATE U-FULLERTN	NCA 2-253601	Esser, A. E.	51	1256
ARC	Zill, L. P.	CAL STATE U-HAYWARD	NCA 2-290401	Sieber, J. E.	61	1258
ARC	Zill, L. P.	CAL STATE U-HAYWARD	NCA 2-290501	Warnke, D. E.	32	1259
ARC	Zill, L. P.	CAL STATE U-HAYWARD	NCA 2-290601	Warnke, D. A.	33	1260
ARC	Zill, L. P.	CAL STATE U-HAYWARD	NCA 2-290602	Smith, P.	51	1261
ARC	Carr, L. W.	CAL STATE U-LG BEACH	NAS 1-13656	Cebeci, T.	41	1262
ARC	Zill, L. P.	CAL STATE U-L ANGLES	NCA 2-385502	Goldwhite, H.	11	1264
ARC	Quattrone, P. D.	CASE WESTERN RESERVE	NGR 36-027-050	Yeager, E.	12	3083
ARC	Fryer, T. B.	CASE WESTERN RESERVE	NGR 36-027-053	Ko, W. H.	59	3085
ARC	Winget, C. M.	CENTRAL ST UNIV-OHIO	NSG 2074	Nduaguba, J. C.	51	3104
ARC	Reynolds, R. T.	CLARK COLLEGE	NSG 2143	Walker, G. H.	31	1953
ARC	Tremor, J. W.	COLORADO STATE UNIV	NAS 2-6615	Baker, R.	59	1722
ARC	Zill, L. P.	COLORADO STATE UNIV	NCA 2-165502	Sandborn, V. A.	41	1734
ARC	Zill, L. P.	COLORADO STATE UNIV	NCA 2-165503	She, C. Y.	13	1735
ARC	Zill, L. P.	COLORADO STATE UNIV	NCA 2-165603	She, C. Y.	45	1736
ARC	Zill, L. P.	COLORADO STATE UNIV	NCA 2-165604	Sandborn, V. A.	13	1737
ARC	Holton, E. M.	COLORADO STATE UNIV	NGR 06-002-075	Jordan, J. P.	51	1738
ARC	Debs, R. J.	COLORADO STATE UNIV	NGR 06-002-127	Loehrke, R. I.	46	1743
ARC	Rositano, S. A.	COLORADO STATE UNIV	NSG 2009	Sun, C. T.	45	1749
ARC	Tremor, J. W.	CORNELL UNIVERSITY	NAS 2-7846	Steward, F. C.	51	2900

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Erickson, E. F.	CORNELL UNIVERSITY	NAS 2-8706	Houck, J. R.	11	2901
ARC	Cameron, R. M.	CORNELL UNIVERSITY	NGR 33-010-0[illegible]1	Houck, J. R.	11	2912
ARC	Cameron, R. M.	CORNELL UNIVERSITY	NGR 33-010-146	Harwit, M. O.	11	2917
ARC	Cameron, R. M.	CORNELL UNIVERSITY	NGR 33-010-182	Houck, J. R.	11	2921
ARC	Nelson, H. G.	CORNELL UNIVERSITY	NSG 2078	Johnson, H. H.	47	2927
ARC	Sandler, H.	CORNELL UNIV-MED CTR	NGR 33-010-179	Reis, D. J.	53	2939
ARC	Blanchard, M. B.	DE ANZA COLLEGE	NSG 2005	Greisen, K. I.	32	1268
ARC	Holton, E. M.	EMORY UNIVERSITY	NGL 11-001-009	Popovic, V. P.	51	1954
ARC	Winter, D. L.	EMORY UNIVERSITY	NGR [illegible]-001-012	Perachio, A. A.	61	1955
ARC	Sandler, H.	EMORY UNIVERSITY	NGR 11-001-016	Bourne, G. H.	51	1956
ARC	Daunton, N. G.	EMORY UNIVERSITY	NGR 11-001-045	Perachio, A. A.	59	1957
ARC	Winget, C. M.	FLORIDA A&M UNIV	NSG 2029	Walker, C. A.	59	1901
ARC	Winget, C. M.	FLORIDA A&M UNIV	NSG 2103	Lamba, S. S.	59	1902
ARC	Kirkpatrick, J. P.	GEORGIA INST OF TECH	NSG 2054	Colwell, G. T.	46	1990
ARC	Hall, C. F.	HARVARD UNIVERSITY	NAS 2-9127	Goody, R. M.	11	2380
ARC	Young, D. R.	HARVARD UNIVERSITY	NGR 22-007-256	Tashjian, A. H., Jr.	52	2398
ARC	Poppoff, I. G.	HARVARD UNIVERSITY	NSG 2031	McElroy, M. B.	31	2406
ARC	Ellis, S.	HARVARD UNIVERSITY	NSG 2144	Goldberg, A. L.	51	2407
ARC	Orloff, K.	HARVEY MUDD COLLEGE	NAS 2-8925	Woodson, T. T.	41	1269
ARC	Sandler, H.	HOWARD UNIVERSITY	NGL 09-011-017	Hawthorne, E. W.	53	1879
ARC	Zill, L. P.	INDIANA U-BLOOMINGTN	NCA 2-335501	Hayes, J. M.	12	2105
ARC	Zill, L. P.	INDIANA U-BLOOMINGTN	NCA 2-335601	Hayes, J. M.	12	2106
ARC	Weisoman, N. W.	INDIANA U-BLOOMINGTN	NGR 15-003-007	Neff, W. D.	51	2109
ARC	Haymaker, W. E.	INDIANA U-INDIANAPLS	NAS 2-7927	Zeman, W.	51	2112
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340405	Grossman, A. S.	19	2149
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340406	Cook, W. J.	41	2150
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340501	Iversen, J. D.	32	2151
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340502	Herget, C. J.	21	2152
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340503	Anderson, D. A.	41	2153
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340504	Grossman, A. S.	31	2154
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340505	Anderson, D. A.	41	2155
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340506	Cook, W. J.	41	2156
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340601	Iversen, J. D.	32	2157
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340602	Grossman, A. S.	11	2158
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340603	Levenson, L. L.	13	2159
ARC	Zill, L. P.	IOWA STATE UNIV	NCA 2-340604	Anderson, D. A.	13	2160
ARC	Rakich, J. V.	IOWA STATE UNIV	NGR 16-002-038	Tannehill, J. C.	41	2161
ARC	Rossow, V. J.	IOWA STATE UNIV	NSG 2040	Iversen, J. D.	41	2162
ARC	Chapman, G. T.	IOWA STATE UNIV	NSG 2091	James, W. D.	41	2163
ARC	Chapman, G. T.	IOWA STATE UNIV	NSG 2150	Herget, C. J.	41	2164
ARC	Presley, L. L.	IOWA STATE UNIV	NSG 2152	Cook, W. J.	41	2165
ARC	Zill, L. P.	JERSEY CITY ST COL	NCA 2-350501	Bailey, W. L.	11	2748
ARC	Ericson, E. F.	JERSEY CITY ST COL	NCA 2-350601	Bailey, W. L.	11	2749
ARC	Patton, R. M.	JOHNS HOPKINS UNIV	NGR 21-001-111	Brady, J. V.	62	2283
ARC	Zill, L. P.	KANSAS STATE UNIV	NCA 2-363501	Ahmed, N.	45	2182
ARC	Zill, L. P.	KANSAS STATE UNIV	NCA 2-363601	Ahmed, N.	39	2183
ARC	Quattrone, P. D.	KENT STATE UNIV-KENT	NSG 2013	Madey, R.	12	3107
ARC	Zill, L. P.	LEHIGH UNIVERSITY	NCA 2-380501	Wei, R. P.	47	3214
ARC	Rabbott, J. P., Jr.	MASS INST OF TECH	NAS 2-7262	Ham, N. D.	41	2417
ARC	Rabbott, J. P., Jr.	MASS INST OF TECH	NAS 2-7620	Faulkner, H. B.	41	2418
ARC	Hall, C. F.	MASS INST OF TECH	NAS 2-8977	Pettengill, G. H.	11	2419
ARC	Hall, C. F.	MASS INST OF TECH	NAS 2-9132	Shapiro, I. I.	11	2420
ARC	Raymos, R.	MASS INST OF TECH	NAS 2-9151	Counselman, C. C., III	11	2421
ARC	Doolin, B. F.	MASS INST OF TECH	NGL 22-009-124	Athans, M.	49	2448
ARC	Daunton, N. G.	MASS INST OF TECH	NGL 22-009-308	Teuber, H. L.	69	2451
ARC	Winget, C. M.	MASS INST OF TECH	NGR 22-009-627	Wurtman, R. J.	53	2468
ARC	Cameron, R. M.	MASS INST OF TECH	NGR 22-009-718	McCord, T. B.	11	2472
ARC	Quattrone, P. D.	MASS INST OF TECH	NGR 22-009-723	Reid, R. C.	12	2473

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Wempe, T. E.	MASS INST OF TECH	NGR 22-009-733	Curry, R. E.	41	2476
ARC	Quattrone, P. D.	MASS INST OF TECH	NGR 22-009-766	Steinfeld, J. I.	12	2479
ARC	Daunton, N. G.	MASS INST OF TECH	NGR 22-009-798	Bizzi, E.	51	2484
ARC	Quattrone, P. D.	MASS INST OF TECH	NGR 22-009-799	Modell, M.	12	2485
ARC	Daunton, N. G.	MASS INST OF TECH	NGR 22-009-826	Nauta, W. J.	51	2488
ARC	Reynolds, R. T.	MASS INST OF TECH	NSG 2010	Prinn, R. G.	31	2498
ARC	Daunton, N. G.	MASS INST OF TECH	NSG 2032	Young, L. R.	59	2499
ARC	Doolin, B. F.	MASS INST OF TECH	NSG 2076	Athans, M.	49	2500
ARC	Rabbott, J. P., Jr.	MASS INST OF TECH	NSG 2095	Harris, W. L.	41	2501
ARC	Wempe, T. E.	MASS INST OF TECH	NSG 2118	Sheridan, T. B.	99	2502
ARC	Williams, L. J.	MASS INST OF TECH	NSG 2129	Taneja, N. K.	41	2503
ARC	Rabbott, J. P., Jr.	MASS INST OF TECH	NSG 2142	Widnall, S. E.	41	2504
ARC	Van Ess, J. C.	NEW MEX ST U-LAS CR	NAS 2-8496	Weinberg, J. L.	99	2802
ARC	Hall, C. F.	NEW YORK UNIVERSITY	NAS 2-7963	Weinberg, J. L.	11	2941
ARC	Hicks, R. M.	NEW YORK UNIVERSITY	NGR 33-016-201	Garabedian, P. R.	41	2948
ARC	Williams, L. J.	NORTHWESTERN UNIV	NSG 2149	Spencer, F. A.	41	2047
ARC	Lauber, J. K.	OHIO STATE UNIV	NAS 2-8954	Gilson, R. D.	69	3110
ARC	Cassen, P. M.	OHIO STATE UNIV	NGR 36-008-205	Kulacki, F. A.	19	3124
ARC	Mehler, W. R.	OHIO STATE UNIV	NGR 36-008-211	Lim, D.	59	3125
ARC	Billingham, J.	OHIO STATE UNIV	NSG 2162	Dixon, R. S.	45	3129
ARC	Miller, S. A.	OKLAHOMA STATE UNIV	NAS 2-7273	Wiggins, K. E.	99	3166
ARC	Keil, L. C.	PENN STATE U-UNIV PK	NSG 2122	Severs, W. B.	53	3252
ARC	Hornby, H.	PEPPERDINE UNIV-MLBU	NSG 2159	Album, H. J.	75	1270
ARC	Zill, L. P.	POLY INST OF NY	NCA 2-595501	Pearce, E. M.	12	2959
ARC	Fohlen, G. M.	POLY INST OF NY	NSG 2147	Pearce, E. M.	12	2967
ARC	Franklin, J. A.	PRINCETON UNIVERSITY	NAS 2-7350	Seckel, E.	41	2752
ARC	Gaspers, P. A., Jr.	PRINCETON UNIVERSITY	NGR 31-001-197	Dowell, E. H.	41	2769
ARC	Smith, G. A.	PRINCETON UNIVERSITY	NGR 31-001-277	Dukes, T. A.	41	2773
ARC	Johnson, R. D.	PRINCETON UNIVERSITY	NSG 2062	O'Neill, G. K.	99	2783
ARC	Billman, K. W.	PRINCETON UNIVERSITY	NSG 2108	Bottoms, W. R.	12	2784
ARC	Horstman, C. C.	PRINCETON UNIVERSITY	NSG 2114	Bogdonoff, S. M.	41	2785
ARC	Zill, L. P.	PURDUE UNIVERSITY	NCA 2-605501	Smith, C. R.	41	2122
ARC	Gregory, T. J.	PURDUE UNIVERSITY	NGR 15-005-180	Anderson, D. C.	49	2130
ARC	Tobak, M.	PURDUE UNIVERSITY	NSG 2135	Abbott, D. E.	41	2134
ARC	Williams, L. J.	PURDUE UNIVERSITY	NSG 2158	Drake, J. W.	41	2135
ARC	Grant, T. L.	RENSSELAER POLY-NY	NGR 33-018-188	Modestino, J. W.	45	2980
ARC	Taketa, S. T.	RICE UNIVERSITY	NAS 2-8676	Ward, C. H.	53	3381
ARC	Doolin, B. F.	RUTGERS U-N BRUNSWK	NSG 2148	Hermann, R.	49	2792
ARC	Greenleaf, J. E.	ST LOUIS UNIVERSITY	NGR 26-006-039	Van Beaumont, W.	53	2685
ARC	Anliker, J. E.	ST LOUIS UNIVERSITY	NSG 2023	Van Beaumont, W.	53	2687
ARC	Pollack, J. B.	SAN DIEGO STATE UNIV	NSG 2138	Angione, R. J.	31	1274
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660410	Orenberg, J. B.	12	1276
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660411	Catalano, G. T.	45	1277
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660501	Eisenberg, L.	99	1278
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660502	Shaw, S. J.	21	1279
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660504	Hagar, C.	11	1280
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660505	Plachy, W. Z.	13	1281
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660506	Auleb, L.	51	1282
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660601	Chealano, G. T.	59	1283
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660602	Orenberg, J. B.	51	1284
ARC	Zill, L. P.	SAN FRAN STATE UNIV	NCA 2-660603	Hagar, C.	11	1285
ARC	Eddy, R. E.	SAN JOSE STATE UNIV	NAS 2-8983	Neidleman, L. D.	99	1287
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675304	West, M. W.	59	1288
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675317	Holnstrom, F.	47	1289
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675401	Brown, D. E.	73	1290
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675406	Leclair, R.	41	1291
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675409	Neptune, J.	12	1292
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675410	Neptune, J.	41	1293

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675411	Sharfstein, H.	41	1294
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675413	Tucker, A. B.	41	1295
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675414	Maddock, M. E.	19	1296
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675505	Myronuk, D. J.	41	1297
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675506	Haight, R. D.	51	1298
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675509	Riegel, C. A.	31	1299
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675511	Sawrey, J. M.	53	1300
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675512	Monge, P. R.	99	1301
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675513	Leonard, T. E.	41	1302
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675514	Anderson, D.	13	1303
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675515	Tseng, R.	53	1304
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675518	Ellesen, R.	31	1305
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675520	Miller, A.	41	1306
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675521	Young, W.	51	1307
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675601	Myronuk, D. J.	49	1308
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675602	Tucker, A. B.	13	1309
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675603	Ballard, R.	51	1310
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675605	Pefley, R. K.	99	1311
ARC	Gaspers, P. A., Jr.	SAN JOSE STATE UNIV	NCA 2-675606	Leonard, T. E.	41	1312
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675607	Bornstein, R. D.	32	1313
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675608	Grilione, P.	12	1314
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675610	Theng, R.	51	1315
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675611	Myronuk, D. J.	49	1316
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675612	Maddock, M. E.	11	1317
ARC	Blanchard, M. B.	SAN JOSE STATE UNIV	NCA 2-675613	Maddock, M. E.	32	1318
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675614	Riegel, C. A.	31	1319
ARC	Zill, L. P.	SAN JOSE STATE UNIV	NCA 2-675615	Sawrey, J. M.	51	1320
ARC	Mansfield, J. A.	SAN JOSE STATE UNIV	NCA 2-675616	Sharfstein, H.	49	1321
ARC	Altman, R. L.	SAN JOSE STATE UNIV	NCA 2-675618	Mayer, L. A.	47	1322
ARC	Stewart, J. D.	SAN JOSE STATE UNIV	NGL 05-046-002	Clark, W. B.	69	1323
ARC	Wydeven, T., Jr.	SAN JOSE STATE UNIV	NGR 05-046-011	Spitze, L. A.	12	1324
ARC	Reynolds, R. T.	SAN JOSE STATE UNIV	NSG 2047	Riegel, C. A.	11	1325
ARC	Wydeven, T., Jr.	SAN JOSE STATE UNIV	NSG 2066	Spitze, L. A.	12	1326
ARC	Klein, H. P.	SAN JOSE STATE UNIV	NSG 2090	Neptune, J. A.	51	1327
ARC	Kourtides, D. A.	SAN JOSE STATE UNIV	NSG 2093	Neptune, J. A.	12	1328
ARC	Kourtides, D. A.	SAN JOSE STATE UNIV	NSG 2105	Young, W.	43	1329
ARC	Bolub, M. A.	SAN JOSE STATE UNIV	NSG 2111	Neptune, J. A.	12	1330
ARC	Whitten, R. C.	SAN JOSE STATE UNIV	NSG 2130	Riegel, C. A.	31	1331
ARC	Tanner, T. A.	SOUTHERN METHODIST U	NSG 2006	Starling, J.	79	3402
ARC	Sandler, H.	SO UNIV-BATON ROUGE	NSG 2041	Ray, G.	59	2253
ARC	Miquel, J.	STANFORD UNIVERSITY	NAS 2-6706	Bensch, K. G.	51	1335
ARC	Barnett, R. M.	STANFORD UNIVERSITY	NAS 2-8898	Pederson, C. A.	75	1336
ARC	Lorell, K. R.	STANFORD UNIVERSITY	NAS 2-9002	Powell, J. D.	45	1337
ARC	Denery, D. G.	STANFORD UNIVERSITY	NAS 2-9083	Debra, D. B.	41	1338
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745414	Pribram, K. H.	53	1350
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745418	Atkinson, R. C.	53	1351
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745426	Pederson, C. A.	99	1352
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745503	Barchas, J. D.	53	1353
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745504	Steele, C. R.	53	1354
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745506	Loew, G. B.	12	1355
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745508	Mathers, L.	53	1356
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745509	Reaven, G. M.	53	1357
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745510	Croft, T. A.	42	1358
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745511	Pound, G. M.	12	1359
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745512	Karamcheti, K.	41	1360
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745513	Peterson, A. M.	45	1361
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745514	Ritson, D.	11	1362
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745515	Bredt, T. H.	21	1363

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745516	Pribram, K. H.	53	1364
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745517	Mitchner, M.	31	1365
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745518	Powell, J. D.	45	1366
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745519	Petrosian, V.	21	1367
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745520	Oliger, J.	21	1368
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745521	Berger, P. A.	51	1369
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745601	Debra, D.	46	1370
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745602	Kline, S. J.	13	1371
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745603	Barnett, D. M.	47	1372
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745604	Rosenberg, N.	75	1373
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745605	Karamcheti, K.	41	1374
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745606	Parker, E. B.	45	1375
ARC	Zill, L. P.	STANFORD UNIVERSITY	NCA 2-745607	Cerf, V.	21	1376
ARC	Presley, L. L.	STANFORD UNIVERSITY	NCA 2-745610	Kline, S. J.	41	1377
ARC	Caroff, L. J.	STANFORD UNIVERSITY	NCA 2-745613	Petrosian, V.	11	1378
ARC	Lumb, D. R.	STANFORD UNIVERSITY	NCA 2-745614	Peterson, A. M.	49	1379
ARC	Doolin, B. F.	STANFORD UNIVERSITY	NGL 05-020-007	Bryson, A. E.	49	1380
ARC	Sandler, H.	STANFORD UNIVERSITY	NGL 05-020-305	Harrison, D. C.	52	1389
ARC	Jones, J. L.	STANFORD UNIVERSITY	NGR 05-020-345	Thompson, D. A.	49	1396
ARC	Chang, S.	STANFORD UNIVERSITY	NGR 05-020-405	Loew, G. H.	12	1397
ARC	Mehler, W. R.	STANFORD UNIVERSITY	NGR 05-020-435	Chow, K. L.	59	1399
ARC	Danellis, J. V.	STANFORD UNIVERSITY	NGR 05-020-456	Luetscher, J. A.	52	1401
ARC	Sandler, H.	STANFORD UNIVERSITY	NGR 05-020-615	Beaver, W. L.	53	1404
ARC	Rubesin, M. W.	STANFORD UNIVERSITY	NGR 05-020-622	Reynolds, W. C.	47	1405
ARC	Sandler, H.	STANFORD UNIVERSITY	NGR 05-020-634	Harrison, D. C.	52	1407
ARC	Hickey, D. H.	STANFORD UNIVERSITY	NGR 05-020-676	Karamcheti, K.	13	1411
ARC	Sandler, H.	STANFORD UNIVERSITY	NGR 05-020-690	Angell, J.	53	1412
ARC	Hruby, R. J.	STANFORD UNIVERSITY	NGR 05-020-699	Bredt, T. A.	41	1413
ARC	Goldstein, H. E.	STANFORD UNIVERSITY	NGR 05-020-710	Bates, C. W.	46	1414
ARC	Erzberger, H.	STANFORD UNIVERSITY	NSG 2007	Bryson, A. E.	19	1419
ARC	Sandler, H.	STANFORD UNIVERSITY	NSG 2020	Popp, R.	52	1420
ARC	Billman, K. W.	STANFORD UNIVERSITY	NSG 2035	Bershader, D.	13	1421
ARC	Chisel, D. M.	STANFORD UNIVERSITY	NSG 2049	Walker, A. B., Jr.	11	1422
ARC	Billman, K. W.	STANFORD UNIVERSITY	NSG 2050	Mitchner, M.	13	1423
ARC	Poppa, H. R.	STANFORD UNIVERSITY	NSG 2071	Pound, G. M.	47	1424
ARC	Reynolds, R. T.	STANFORD UNIVERSITY	NSG 2072	Spreiter, J. R.	31	1425
ARC	Howe, J. T.	STANFORD UNIVERSITY	NSG 2085	Bershades, D.	42	1426
ARC	Young, D. R.	STANFORD UNIVERSITY	NSG 2092	Steele, C. R.	53	1427
ARC	Franklin, J. A.	STANFORD UNIVERSITY	NSG 2100	Debra, D. B.	41	1428
ARC	Nachtsheim, P. R.	STANFORD UNIVERSITY	NSG 2102	Bates, C. W.	47	1429
ARC	Billingham, J.	STANFORD UNIVERSITY	NSG 2121	Peterson, A. M.	49	1430
ARC	Sandler, H.	STANFORD UNIVERSITY	NSG 2132	Harrison, D. C.	52	1431
ARC	Dolkas, C. B.	STANFORD UNIVERSITY	NSG 2141	Olefsky, J. M.	52	1432
ARC	Wydeven, T., Jr.	STANFORD UNIVERSITY	NSG 2161	Brauman, J. I.	12	1433
ARC	Reynolds, R. T.	STATE UNIV NY-ALBANY	NSG 2080	Kiang, C. S.	31	2991
ARC	Tremor, J. W.	STATE U NY-STONY BRK	NAS 2-8986	Steward, F. C.	51	3005
ARC	Boese, R. W.	STATE U NY-STONY BRK	NCA 2-760601	Lutz, B. L.	13	3006
ARC	Zill, L. P.	TEXAS A&M UNIVERSITY	NCA 2-773501	Flamm, D.	12	3432
ARC	Malcolm, G. N.	TEXAS A&M UNIVERSITY	NSG 2123	MacHa, J. M.	41	3438
ARC	Holton, E. M.	TEXAS TECH UNIV	NSG 2137	Kenny, A. D.	51	3443
ARC	Zill, L. P.	TUFTS UNIVERSITY	NCA 2-785401	Kreifieldt, J. G.	41	2528
ARC	Zill, L. P.	TUFTS UNIVERSITY	NCA 2-785501	Kreifieldt, J. G.	41	2529
ARC	Zill, L. P.	TUFTS UNIVERSITY	NCA 2-785601	Cole, J. E., III	41	2530
ARC	Wempe, T. E.	TUFTS UNIVERSITY	NSG 2156	Kreifieldt, J. G.	99	2532
ARC	Zill, L. P.	TULANE UNIVERSITY	NCA 2-800402	Brizzee, K. R.	51	2259
ARC	Zill, L. P.	TULANE UNIVERSITY	NCA 2-800501	Brizzee, K. R.	53	2260
ARC	Mehler, W. R.	TULANE UNIVERSITY	NSG 2139	Brizzee, K. R.	53	2264
ARC	Philpott, D. E.	TUSKEGEE INSTITUTE	NCA 2-810601	Sapp, W. J.	13	1036

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Golub, M. A.	UNIV OF AKRON	NSG 2061	Gent, A. N.	13	3134
ARC	Tanner, T. A.	UNIV ALA-HUNTSVILLE	NSG 2058	Rogers, J. G.	13	1068
ARC	Haughney, L. C.	UNIV ALASKA-FAIRBNKS	NSG 2053	Sivjee, G. G.	31	1091
ARC	Hall, C. F.	UNIV OF ARIZONA	NAS 2-6265	Gehrels, A. M.	11	1102
ARC	Hall, C. F.	UNIV OF ARIZONA	NAS 2-7839	Sonett, C. P.	13	1103
ARC	Hall, C. F.	UNIV OF ARIZONA	NAS 2-8818	Tomasko, M. G.	31	1104
ARC	Zill, L. P.	UNIV OF ARIZONA	NCA 2-40502	Call, R. L.	45	1115
ARC	Zill, L. P.	UNIV OF ARIZONA	NCA 2-40503	Williams, P. L.	45	1116
ARC	Zill, L. P.	UNIV OF ARIZONA	NCA 2-40504	Thompson, R. I.	49	1117
ARC	Zill, L. P.	UNIV OF ARIZONA	NCA 2-40601	Caroff, L. J.	13	1118
ARC	Zill, L. P.	UNIV OF ARIZONA	NCA 2-40602	Hubbard, W. B., Jr.	11	1119
ARC	Caroff, L. J.	UNIV OF ARIZONA	NCA 2-40604	Weymann, R. J.	11	1120
ARC	Cameron, R. M.	UNIV OF ARIZONA	NGR 03-002-332	Larson, H. P.	11	1142
ARC	Cameron, R. M.	UNIV OF ARIZONA	NGR 03-002-390	Hoffman, W. F.	11	1149
ARC	Cameron, R. M.	UNIV OF ARIZONA	NSG 2042	Woolf, N.	11	1150
ARC	Ballhaus, W. F.	UNIV OF ARIZONA	NSG 2112	Seebass, A. R.	41	1151
ARC	Ahtye, W. F.	UNIV ARKANSAS-FAYETV	NGL 04-001-007	Testerman, M. K.	41	1178
ARC	Zill, L. P.	UNIV ARKANSAS-LTL RK	NCA 2-45501	Testerman, M. K.	41	1180
ARC	Johnson, D. A.	UNIV ARKANSAS-LTL RK	NCA 2-45601	Testerman, M. K.	41	1181
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50302	Sherman, F. S.	32	1453
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50406	Angelakos, D. J.	45	1454
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50501	Everhart, T. E.	47	1455
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50502	Buxbaum, R. M.	75	1456
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50503	Postman, L. J.	41	1457
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50504	Bhattacharyya, B. K.	49	1458
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50508	Hafter, E. R.	69	1459
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50509	Nicoll, C. S.	51	1460
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50510	Everhart, T. E.	47	1461
ARC	Zill, L. P.	UNIV CALIF-BERKELEY	NCA 2-50603	Laporte, T.	75	1462
ARC	Lanyi, J. K.	UNIV CALIF-BERKELEY	NCA 2-50607	Packer, L.	51	1465
ARC	Quattrone, P. D.	UNIV CALIF-BERKELEY	NGL 05-003-024	Pace, N.	59	1468
ARC	Chapman, G. T.	UNIV CALIF-BERKELEY	NGR 05-003-451	Holt, M.	41	1480
ARC	Newsom, B. D.	UNIV CALIF-BERKELEY	NGR 05-003-470	Pace, N.	59	1483
ARC	Tanner, T. A.	UNIV CALIF-BERKELEY	NGR 05-003-471	Laporte, T.	79	1484
ARC	Cameron, R. M.	UNIV CALIF-BERKELEY	NGR 05-003-511	Townes, C. H.	11	1486
ARC	Billman, K. W.	UNIV CALIF-BERKELEY	NGR 05-003-559	Gustafson, T. K.	45	1489
ARC	Wrigley, R. C.	UNIV CALIF-BERKELEY	NSG 2003	Horne, A. J.	39	1493
ARC	Kourtides, D. A.	UNIV CALIF-BERKELEY	NSG 2026	Williamson, R. B.	44	1494
ARC	Wydeven, T., Jr.	UNIV CALIF-BERKELEY	NSG 2043	Bell, A. T.	43	1495
ARC	Riccitiello, S. R.	UNIV CALIF-BERKELEY	NSG 2084	Williamson, R. B.	12	1496
ARC	Ciffone, D. L.	UNIV CALIF-BERKELEY	NSG 2110	Wehausen, J. V.	41	1497
ARC	Cameron, R. M.	UNIV CALIF-BERKELEY	NSG 2125	Muller, R. A.	11	1498
ARC	Waters, M. H.	UNIV CALIF-BERKELEY	NSG 2127	Horonjeff, R.	41	1499
ARC	Waters, M. H.	UNIV CALIF-BERKELEY	NSG 2133	Horonjeff, R.	41	1500
ARC	Billman, K. W.	UNIV CALIF-BERKELEY	NSG 2151	Gustafson, T. K.	13	1501
ARC	Wood, R. D.	UNIV CALIF-BERKELEY	NSG 2160	Laporte, T.	39	1502
ARC	Taketa, S. T.	UNIV CALIF-DAVIS	NAS 2-8685	Mazelis, M.	51	1511
ARC	Zill, L. P.	UNIV CALIF-DAVIS	NCA 2-180501	Baldwin, R. L.	53	1516
ARC	Zill, L. P.	UNIV CALIF-DAVIS	NCA 2-180502	Fong, C. Y.	21	1517
ARC	Zill, L. P.	UNIV CALIF-DAVIS	NCA 2-180503	White, B. R.	41	1518
ARC	Zill, L. P.	UNIV CALIF-DAVIS	NCA 2-180504	Chapman, L. F.	61	1519
ARC	Zill, L. P.	UNIV CALIF-DAVIS	NCA 2-180505	Evans, J. W.	51	1520
ARC	Zill, L. P.	UNIV CALIF-DAVIS	NCA 2-180506	Bernauer, E. M.	61	1521
ARC	Zill, L. P.	UNIV CALIF-DAVIS	NCA 2-180601	Bernauer, E. M.	52	1522
ARC	Millard, J.	UNIV CALIF-DAVIS	NCA 2-180607	Hatfield, J. L.	32	1524
ARC	Oyama, J.	UNIV CALIF-DAVIS	NGL 05-004-008	Smith, A. H.	51	1525
ARC	Holton, E. M.	UNIV CALIF-DAVIS	NGR 05-004-099	Horowitz, J. M.	51	1527
ARC	Mandel, A. D.	UNIV CALIF-IRVINE	NGR 05-041-012	Tilles, J. G.	52	1529

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Hall, C. F.	UNIV CALIF-L ANGELES	NAS 2-7251	Coleman, P. J., Jr.	11	1532
ARC	Polentz, P. P.	UNIV CALIF-L ANGELES	NAS 2-7785	Dixon, W. J.	41	1533
ARC	Hall, C. F.	UNIV CALIF-L ANGELES	NAS 2-8808	Russell, C. T.	19	1534
ARC	Hall, C. F.	UNIV CALIF-L ANGELES	NAS 2-9128	Kaula, W. M.	11	1535
ARC	Hall, C. F.	UNIV CALIF-L ANGELES	NAS 2-9131	Schubert, G.	11	1536
ARC	Zill, L. P.	UNIV CALIF-L ANGELES	NCA 2-390402	Douglass, D. L.	12	1546
ARC	Zill, L. P.	UNIV CALIF-L ANGELES	NCA 2-390405	Schmit, L. A.	41	1547
ARC	Zill, L. P.	UNIV CALIF-L ANGELES	NCA 2-390501	Carterette, E. C.	21	1548
ARC	Zill, L. P.	UNIV CALIF-L ANGELES	NCA 2-390502	Parlow, A.	53	1549
ARC	Zill, L. P.	UNIV CALIF-L ANGELES	NCA 2-390503	Coleman, P. J., Jr.	32	1550
ARC	Zill, L. P.	UNIV CALIF-L ANGELES	NCA 2-390601	Parlow, A.	51	1551
ARC	Zill, L. P.	UNIV CALIF-L ANGELES	NCA 2-390602	Schmit, L. A.	21	1552
ARC	Anderson, A. E.	UNIV CALIF-L ANGELES	NGR 05-007-323	Meecham, W. C.	41	1566
ARC	Daunton, N. G.	UNIV CALIF-L ANGELES	NGR 05-007-418	Markham, C. H.	51	1576
ARC	Pollack, J.	UNIV CALIF-L ANGELES	NSG 2094	Schubert, G.	31	1579
ARC	Poppa, H. R.	UNIV CALIF-L ANGELES	NSG 2115	Douglass, D. L.	13	1580
ARC	Hall, C. F.	UNIV CALIF-SAN DIEGO	NAS 2-6552	Fillius, R. W.	11	1594
ARC	Billingham, J.	UNIV CALIF-SAN DIEGO	NGL 05-009-109	West, J. B.	53	1612
ARC	Cameron, P. M.	UNIV CALIF-SAN DIEGO	NGL 05-009-230	Soifer, B. T.	11	1615
ARC	Cameron, R. M.	UNIV CALIF-SAN DIEGO	NGR 05-005-055	Stein, W. A.	11	1617
ARC	Winter, D. L.	UNIV CALIF-SAN DIEGO	NGR 05-009-083	Galambos, R.	61	1621
ARC	Anliker, J. E.	UNIV CALIF-SAN DIEGO	NGR 05-009-198	Galambos, R.	59	1625
ARC	Sandler, H.	UNIV CALIF-SAN DIEGO	NGR 05-009-257	Baily, N. A.	52	1631
ARC	Zill, L. P.	UNIV CALIF-SAN FRAN	NCA 2-665301	Degroot, J.	51	1646
ARC	Zill, L. P.	UNIV CALIF-SAN FRAN	NCA 2-665401	Dallman, M. F.	51	1647
ARC	Zill, L. P.	UNIV CALIF-SAN FRAN	NCA 2-665402	Aly, R.	51	1648
ARC	Zill, L. P.	UNIV CALIF-SAN FRAN	NCA 2-665502	Dallman, M. F.	51	1649
ARC	Zill, L. P.	UNIV CALIF-SAN FRAN	NCA 2-665601	Aly, R.	51	1650
ARC	Danellis, J. V.	UNIV CALIF-SAN FRAN	NCA 2-665602	Dallman, M. F.	51	1651
ARC	Zill, L. P.	UNIV CALIF-SAN FRAN	NGL 05-025-014	Stoeckenius, W.	59	1652
ARC	Zill, L. P.	UNIV CALIF-S BARBARA	NCA 2-680601	Rochelle, R. H.	51	1655
ARC	Hall, C. F.	UNIV OF CHICAGO	NAS 2-6551	Simpson, J. A.	11	2051
ARC	Cameron, R. M.	UNIV OF CHICAGO	NGR 14-001-211	Harper, D. A., Jr.	11	2068
ARC	Daunton, N. G.	UNIV OF CHICAGO	NGR 14-001-225	Goldberg, J. M.	51	2069
ARC	Gillespie, C. M., Jr.	UNIV OF CHICAGO	NGR 14-001-227	Harper, D. A., Jr.	11	2070
ARC	Cameron, R. M.	UNIV OF CHICAGO	NSG 2057	Hildebrand, R. H.	11	2072
ARC	Burke, J. A.	UNIV OF CINCINNATI	NAS 2-7850	Tabakoff, W.	41	3135
ARC	Sinnott, D. B.	UNIV COLORADO-BOLDR	NAS 2-8816	Stewart, A. I.	19	1758
ARC	Cameron, R. M.	UNIV COLORADO-BOLDR	NSG 2055	Webb, W.	11	1791
ARC	Poppoff, I. G.	UNIV COLORADO-BOLDR	NSG 2126	London, J.	31	1792
ARC	Davis, S. S.	UNIV COLORADO-BOLDR	NSG 2128	Kadlec, R. A.	41	1793
ARC	Gregory, T. J.	UNIV OF CONNECTICUT	NSG 2155	White, P. R.	41	1820
ARC	Munoz, R. M.	UNIV OF DENVER	NAS 2-8200	Murcray, D. G.	13	1803
ARC	Quattrone, P. D.	UNIV OF DENVER	NGR 06-004-125	Ross, L. W.	12	1812
ARC	Zill, L. P.	UNIV OF FLORIDA	NCA 2-240501	Clarkson, M. H.	41	1920
ARC	Anliker, J. E.	UNIV OF FLORIDA	NGR 10-005-057	Webb, W. B.	69	1925
ARC	Malcolm, G. N.	UNIV OF FLORIDA	NSG 2120	Clarkson, M. H.	41	1928
ARC	Smith, M. C., Jr.	UNIV OF HAWAII-MANOA	NAS 2-8590	Kuo, F. F.	99	2017
ARC	Taketa, S. T.	UNIV OF HAWAII-MANOA	NAS 2-8687	Siegel, S. M.	51	2018
ARC	Smith, M. C., Jr.	UNIV OF HAWAII-MANOA	NAS 2-9175	Lichtenberger, W. W.	45	2019
ARC	Ginoza, H. S.	UNIV HOUSTON-HOUSTON	NAS 2-9072	Allred, J. C.	51	3445
ARC	Zill, L. P.	UNIV HOUSTON-HOUSTON	NCA 2-295502	Kiehn, R. M.	41	3459
ARC	Zill, L. P.	UNIV HOUSTON-HOUSTON	NCA 2-295503	Bartel, A. H.	51	3460
ARC	Zill, L. P.	UNIV HOUSTON-HOUSTON	NCA 2-295601	Becker, R. S.	51	3461
ARC	Zill, L. P.	UNIV HOUSTON-HOUSTON	NCA 2-295602	Kiehn, R. M.	13	3462
ARC	Slye, R. E.	UNIV ILLINOIS-URBANA	NGR 14-005-202	Ray, R. M.	21	2084
ARC	Mehler, W. R.	UNIV ILLINOIS-URBANA	NGR 14-005-221	Ades, H. W.	53	2085
ARC	Williams, B. A.	UNIV ILLINOIS-URBANA	NSG 2099	Heath, J. E.	51	2089

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Wempe, T. E.	UNIV ILLINOIS-URBANA	NSG 2119	Rouse, W. B.	99	2090
ARC	Hall, C. F.	UNIV OF IOWA	NAS 2-6553	Van Allen, J. A.	11	2168
ARC	Galloway, T. L.	UNIV OF KANSAS	NSG 2145	Roskam, J.	41	2208
ARC	Zill, L. P.	UNIV OF KANSAS	NSG 4007	Roskam, J.	41	2212
ARC	McCutcheon, E. P.	UNIV OF KENTUCKY	NAS 2-8883	Knapp, C. E.	46	2224
ARC	Mehler, W. R.	UNIV OF LOUISVILLE	NSG 2067	Fuller, P. M.	51	2236
ARC	Sharp, J. C.	UNIV MARYLAND-BALT	NSG 2098	Grenell, R. G.	53	2298
ARC	Zill, L. P.	UNIV MARYLAND-COL PK	NCA 2-420403	Ponnamperuma, C. A.	12	2309
ARC	Zill, L. P.	UNIV MARYLAND-COL PK	NCA 2-420501	Ponnamperuma, C. A.	11	2310
ARC	Boese, R. W.	UNIV MARYLAND-COL PK	NCA 2-420701	Wilkerson, T. B.	31	2311
ARC	MacElroy, R. D.	UNIV MARYLAND-COL PK	NSG 2109	Ponnamperuma, C. A.	59	2347
ARC	Hall, C. F.	UNIV OF MASS-AMHERST	NAS 2-9129	McGill, G. E.	11	2534
ARC	Simmonds, R. C.	UNIV MICH-ANN ARBOR	NAS 2-6057	Von Baumgarten A, R. J.	61	2550
ARC	Lincoln, K. A.	UNIV MICH-ANN ARBOR	NAS 2-8992	Carignan, G. R.	13	2551
ARC	Hall, C. F.	UNIV MICH-ANN ARBOR	NAS 2-9126	Donahue, T. M.	11	2552
ARC	Hall, C. F.	UNIV MICH-ANN ARBOR	NAS 2-9130	Nagy, A. F.	11	2553
ARC	Zill, L. P.	UNIV MICH-ANN ARBOR	NCA 2-440601	Howe, R. M.	46	2573
ARC	Feistel, T. W.	UNIV MICH-ANN ARBOR	NSG 2018	Kroeger, R. A.	41	2595
ARC	Galloway, T. L.	UNIV MICH-ANN ARBOR	NSG 2056	Kroeger, R. A.	41	2596
ARC	Anderson, S. B.	UNIV MICH-ANN ARBOR	NSG 2113	Kroeger, R. A.	41	2597
ARC	Thorley, G. W.	U MINN-MNPLS-ST PAUL	NAS 2-8812	Nier, A. O.	31	2617
ARC	Cameron, R. M.	U MINN-MNPLS-ST PAUL	NGR 24-005-267	Ney, E. P.	11	2637
ARC	Cameron, R. M.	U MINN-MNPLS-ST PAUL	NSG 2014	Ney, E. P.	11	2639
ARC	Johnson, D. A.	UNIV MO-COLUMBIA	NCA 2-450604	Miles, J. B.	45	2693
ARC	Holton, E. M.	UNIV MO-COLUMBIA	NGL 26-004-021	Musacchia, X. J.	51	2694
ARC	Ginoza, H. S.	UNIV MO-KANSAS CITY	NGR 26-001-018	Millich, F.	12	2695
ARC	Zill, L. P.	UNIV MO-ROLLA	NCA 2-450501	Levenson, L. L.	47	2698
ARC	Zill, L. P.	UNIV MO-ROLLA	NCA 2-450601	James, W. J.	47	2699
ARC	Zill, L. P.	UNIV MO-ROLLA	NCA 2-450602	Levenson, L. L.	13	2700
ARC	Zill, L. P.	UNIV MO-ROLLA	NCA 2-450603	Levenson, L. L.	47	2701
ARC	Quattrone, P. D.	UNIV MO-ROLLA	NGR 26-004-097	Mills, J. B.	59	2702
ARC	Sebesta, P. D.	UNIV OF MONTANA	NSG 2030	Craighead, J. J.	39	2720
ARC	Nelson, H. G.	UNIV NEBRASKA-LINCLN	NGR 28-004-025	Johnson, D. L.	47	2727
ARC	Davis, S. S.	UNIV NEVADA-L VEGAS	NSG 2140	Fromme, J. A.	41	2730
ARC	Zill, L. P.	UNIV OF NEW MEXICO	NCA 2-510502	Riedesel, M. L.	51	2820
ARC	Haughney, L. C.	UNIV OF NEW MEXICO	NSG 2052	Peterson, A. W.	31	2838
ARC	Caroff, L. J.	UNIV OREGON-EUGENE	NCA 2-587601	Kemp, J.	13	3187
ARC	Cameron, R. M.	UNIV OREGON-EUGENE	NGR 38-003-034	Donnelly, R. J.	11	3190
ARC	Whiting, E. E.	UNIV OREGON-EUGENE	NGR 38-003-036	Crasemann, B.	13	3191
ARC	Zill, L. P.	UNIV OF PENNSYLVANIA	NAS 2-7730	Brown, A. H.	51	3263
ARC	Zill, L. P.	UNIV OF PENNSYLVANIA	NGR 39-010-149	Brown, A. H.	51	3266
ARC	Billingham, J.	UNIV OF PITTSBURGH	NSG 2116	Gatewood, G. D.	11	3286
ARC	Black, D.	UNIV OF PITTSBURGH	NSG 2117	Gatewood, G. D.	11	3287
ARC	Cameron, R. M.	UNIV OF ROCHESTER	NGR 33-019-127	Pipher, J. L.	11	3037
ARC	Taketa, S. T.	UNIV SAN FRANCISCO	NAS 2-7059	Benton, E. V.	13	1664
ARC	Zill, L. P.	UNIV SAN FRANCISCO	NCA 2-670501	Furst, A.	51	1668
ARC	Zill, L. P.	UNIV SAN FRANCISCO	NCA 2-670503	Furst, A.	52	1669
ARC	Zill, L. P.	UNIV SAN FRANCISCO	NCA 2-670504	Furst, A.	53	1670
ARC	Kourtides, D. A.	UNIV SAN FRANCISCO	NSG 2039	Hilado, C. J.	12	1671
ARC	Miquel, J.	UNIV SAN FRANCISCO	NSG 2063	Benton, E. V.	51	1672
ARC	Riccitiello, S. R.	UNIV SAN FRANCISCO	NSG 2164	Hilado, C. J.	13	1673
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685402	Alexander, G.	79	1675
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685408	Barker, W. A.	32	1676
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685409	Markie, G. E.	41	1677
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685501	Pefley, R. K.	59	1678
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685502	Sweeney, M. A.	12	1679
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685505	Pefley, R. K.	41	1680
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685507	McCormick, P. T.	31	1681

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685508	Bruno, A. V.	75	1682
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685509	Tomlinson, G. A.	51	1683
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685510	Alexander, G. J.	75	1684
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685601	Raggett, J.	41	1685
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685603	Sweeney, M. A.	51	1686
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685605	Pefley, R. K.	59	1687
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685606	Barker, W. A.	32	1688
ARC	Zill, L. P.	UNIV OF SANTA CLARA	NCA 2-685610	McCormick, P. T.	11	1689
ARC	Hochstein, L. I.	UNIV OF SANTA CLARA	NCA 2-685614	Tomlinson, G. A.	31	1690
ARC	Reynolds, R. T.	UNIV OF SANTA CLARA	NCA 2-685701	Barker, W. A.	32	1691
ARC	Doolin, B. F.	UNIV OF SANTA CLARA	NGR 05-017-010	Siljak, D. D.	49	1692
ARC	Quaide, W. L.	UNIV OF SANTA CLARA	NGR 05-017-027	Greeley, R.	32	1693
ARC	Hruby, R. J.	UNIV OF SANTA CLARA	NGR 05-017-031	Dunn, W. R.	41	1694
ARC	Buell, D. A.	UNIV OF SANTA CLARA	NGR 05-017-033	Cheng, D. Y.	41	1695
ARC	Walsh, L. J.	UNIV OF SANTA CLARA	NSG 2036	Bruno, A. V.	99	1697
ARC	Dyal, P.	UNIV OF SANTA CLARA	NSG 2075	Parkin, C. W.	13	1698
ARC	Lomax, H.	UNIV OF SANTA CLARA	NSG 2086	Vinokur, M.	13	1699
ARC	Meyer, G.	UNIV OF SANTA CLARA	NSG 2106	Weissenberger, S.	41	1700
ARC	Billingham, J.	UNIV OF SANTA CLARA	NSG 2153	Stull, M. A.	99	1701
ARC	Hall, C. F.	UNIV OF SOUTHERN CAL	NAS 2-6558	Judge, D. L.	11	1703
ARC	Hall, C. F.	UNIV OF SOUTHERN CAL	NAS 2-7969	Intriligator, D. S.	11	1704
ARC	Zill, L. P.	UNIV OF SOUTHERN CAL	NCA 2-730501	Cheng, H. K.	41	1710
ARC	Zill, L. P.	UNIV OF SOUTHERN CAL	NCA 2-730601	Cheng, H. K.	41	1711
ARC	Hruby, R. J.	UNIV STHN COLORADO	NSG 2048	Jenkins, R.	41	1815
ARC	Dannenberg, R. E.	UNIVERSITY OF SPLIT	NSG 7163	Slapnicar, P. I.	13	3827
ARC	Rubesin, M. W.	UNIV TEXAS-ARLINGTON	NSG 2077	Payne, F. R.	41	3477
ARC	Mason, R. H.	UNIV TEXAS-AUSTIN	NGR 44-012-240	Ulrich, B. T.	11	3501
ARC	Tanner, T. A.	UNIV TEXAS-AUSTIN	NSG 2065	Helmreich, R. L.	69	3510
ARC	Medan, R. T.	UNIV TEXAS-AUSTIN	NSG 2101	Summa, J. M.	41	3511
ARC	Hall, C. F.	UNIV TEXAS-DALLAS	NAS 2-8802	Hoffman, J. H.	31	3522
ARC	Sandler, H.	UNIV TEXAS-GALVESTON	NGR 44-088-002	Stone, H. L.	52	3546
ARC	Zill, L. P.	UNIV OF UTAH	NCA 2-821601	Smith, L. M.	51	3564
ARC	Coler, C. R.	UNIV OF UTAH	NGR 45-003-108	Plummer, R. P.	45	3568
ARC	Zill, L. P.	UNIV OF VIRGINIA	NCA 2-825501	Updike, O. L.	52	3667
ARC	Mehler, W. R.	UNIV OF VIRGINIA	NGR 47-005-186	Ebbesson, S. O.	51	3672
ARC	Oyama, J.	UNIV OF VIRGINIA	NGR 47-005-213	Pitts, G. C.	51	3675
ARC	Holton, E. M.	UNIV OF WASHINGTON	NAS 2-8541	Baylink, D. J.	53	3737
ARC	Zill, L. P.	UNIV OF WASHINGTON	NCA 2-850501	Businger, J. A.	41	3741
ARC	Zill, L. P.	UNIV OF WASHINGTON	NCA 2-850602	Mueller, J. I.	46	3742
ARC	Rose, W. C.	UNIV OF WASHINGTON	NGL 48-002-047	Childs, M. E.	41	3747
ARC	Steinle, F. W., Jr.	UNIV OF WASHINGTON	NGR 48-002-107	Russell, D. A.	41	3750
ARC	Rose, W. C.	UNIV OF WASHINGTON	NGR 48-002-141	Childs, M. E.	41	3752
ARC	Blanchard, M. B.	UNIV OF WASHINGTON	NSG 2131	Hodge, P. W.	19	3758
ARC	Taketa, S. T.	UNIV WISC-MADISON	NAS 2-7314	Tibbetts, T. W.	51	3772
ARC	Holton, E. M.	UNIV WISC-MADISON	NAS 2-8752	Deluca, H. F.	12	3773
ARC	Hall, C. F.	UNIV WISC-MADISON	NAS 2-8813	Suomi, V. E.	31	3774
ARC	Young, D. R.	UNIV WISC-MADISON	NGR 50-002-051	Cameron, J. R.	52	3792
ARC	Mandel, A. D.	UNIV WISC-MADISON	NGR 50-002-191	Balish, E.	52	3795
ARC	Mandel, A. D.	UNIV WISC-MADISON	NSG 2002	Dick, E. C.	52	3799
ARC	Mandel, A. D.	UNIV WISC-MADISON	NSG 2104	Dick, E.	52	3800
ARC	Kimball, W. L.	UPPSALA UNIVERSITY	NGR 52-028-004	Engstrom, H.	53	3826
ARC	Lowenstein, M.	UTAH STATE UNIV	NAS 2-8108	Shaw, A. W.	31	3573
ARC	Zill, L. P.	UTAH STATE UNIV	NCA 2-820501	Martin, C. F.	21	3575
ARC	Zill, L. P.	VASSAR COLLEGE	NCA 2-823501	Christensen, C.	51	3040
ARC	Zill, L. P.	VASSAR COLLEGE	NCA 2-823601	Christensen, C.	59	3041
ARC	Gaspers, P. A., Jr.	VIRGINIA POLY INST	NSG 2016	Weisshaar, T. A.	41	3729
ARC	Williams, D. P.	VIRGINIA POLY INST	NSG 2038	Brinson, H. F.	47	3730
ARC	Morse, H. A.	WASHINGTON UNIVERSTY	NAS 2-7613	Hohenemser, K. H.	41	2706

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
ARC	Young, D. R.	WAYNE STATE UNIV	NSG 2008	Orne, D.	53	2609
ARC	Hicks, R. M.	WICHITA STATE UNIV	NSG 2134	Wentz, W. H., Jr.	41	2221
ARC	Winget, C. M.	WRIGHT STATE UNIV	NAS 2-8578	Beljan, J. R.	53	3163
ARC	Young, D. R.	WRIGHT STATE UNIV	NSG 2034	Beljan, J. R.	53	3164
ARC	Winget, C. M.	XAVIER UNIV-LA	NGR 19-007-004	Ashman, P. U.	51	2266
ARC	Zill, L. P.	OREGON GRADUATE CTR	NCA 2-585501	Swanson, L. W.	51	3177
ARC	Zill, L. P.	OREGON GRADUATE CTR	NCA 2-585601	Swanson, L. W.	51	3178
DFRC	Deets, D. A.	LEHIGH UNIVERSITY	NSG 4005	Johnson, S. H.	41	3223
DFRC	Deets, D. A.	LEHIGH UNIVERSITY	NSG 4010	Johnson, S. H.	41	3224
DFRC	Szalai, K. J.	MASS INST OF TECH	NGL 22-009-548	Whitaker, H. D.	41	2454
DFRC	Berry, D. T.	PURDUE UNIVERSITY	NSG 4003	Swaim, R. L.	41	2139
DFRC	Kordes, E. E.	STANFORD UNIVERSITY	NGL 05-020-498	McIntosh, S. C., Jr.	41	1391
DFRC	Deets, D. A.	STANFORD UNIVERSITY	NSG 4002	Bryson, A. E.	41	1434
DFRC	Ehernberger, L. J.	TEXAS A&M UNIVERSITY	NGR 44-001-081	Scoggins, J. R.	31	3434
DFRC	Carter, A. L.	UNIV CALIF-L ANGELES	NAS 4-1995	Unavailable	41	1537
DFRC	Rediess, H. A.	UNIV CALIF-L ANGELES	NGL 05-007-379	Balakrishnan, A. V.	41	1561
DFRC	Ehernberger, L. J.	UNIV CALIF-L ANGELES	NSG 4001	Wurtele, M. G.	31	1582
DFRC	Gee, S. W.	UNIV OF KANSAS	NAS 4-2148	Roskam, J.	41	2187
DFRC	Horton, V. W.	UNIV OF KANSAS	NSG 4004	Muirhead, V. U.	49	2210
DFRC	Fields, R. A.	UNIV OF KANSAS	NSG 4006	Lenzen, K. H.	41	2211
DFRC	Jenkins, J. M.	UNIV OF KANSAS	NSG 4008	Lenzen, K. H.	41	2213
DFRC	Saltzman, E. J.	UNIV OF KANSAS	NSG 4009	Muirhead, V. U.	49	2214
GSFC	Tarlton, M. J.	ADELPHI UNIVERSITY	NAS 5-22529	Dooher, J. P.	39	2841
GSFC	Schmid, P. E.	ALCORN STATE UNIV	NGR 25-012-001	Paul, M. P.	31	2650
GSFC	Schubert, J.	AMERICAN UNIVERSITY	NAS 5-21970	MacLeod, N. H.	39	1835
GSFC	Sobieski, S.	BELOIT COLLEGE	NGR 50-010-001	Schroeder, D. J.	11	3769
GSFC	Morse, S.	BOSTON COLLEGE	NAS 5-22994	Kelley, A. J.	72	2371
GSFC	Kupperian, J. E.	BOSTON UNIVERSITY	NSG 5055	Adelman, S. J.	11	2376
GSFC	Boldt, E. A.	BOWIE STATE COLLEGE	NGR 21-027-001	Tornabene, H. S.	11	2268
GSFC	Fuchs, A. J.	BOWIE STATE COLLEGE	NGR 21-027-004	Srivastava, S.	21	2269
GSFC	Caruso, A. J.	BOWIE STATE COLLEGE	NGR 21-027-010	Bhatia, M. S.	13	2270
GSFC	Mundy, J. R.	BOWIE STATE COLLEGE	NGT 21-027-012	Kirksey, C. H.	21	2271
GSFC	Gross, F. C.	BOWIE STATE COLLEGE	NSG 5009	Rock, M.	12	2272
GSFC	Schnetzler, C. C.	BROOKLYN COLLEGE	NAS 5-20961	Weil, C. B.	75	2844
GSFC	Lynch, T. J.	BROWN UNIVERSITY	NSG 5036	Cooper, D. B.	21	3301
GSFC	Davis, M. A.	CALIF INST OF TECH	NAS 5-11066	Stone, E. C.	13	1189
GSFC	Kelsall, T. N.	CALIF INST OF TECH	NAS 5-20492	Neugebauer, G.	31	1190
GSFC	Gallagher, W. F.	CALIF INST OF TECH	NAS 5-20721	Stone, L. C.	13	1191
GSFC	Hymowitz, E. W.	CALIF INST OF TECH	NAS 5-22555	Neugebauer, G.	11	1192
GSFC	Neupert, W. M.	CALIF INST OF TECH	NAS 5-22939	Zirin, H.	11	1193
GSFC	Nelson, D. W.	CALIF INST OF TECH	NAS 5-22965	Ingersoll, A. P.	31	1194
GSFC	Sobieski, S.	CALIF INST OF TECH	NAS 5-23287	Neugebauer, G.	11	1195
GSFC	Wrublik, D. P.	CALIF INST OF TECH	NAS 5-23315	Garmire, G. P.	11	1196
GSFC	Weinreb, M. B.	CALIF INST OF TECH	NAS 5-23615	Garmire, G. P.	11	1197
GSFC	Sobieski, S.	CALIF INST OF TECH	NGR 05-002-311	Oke, J. B.	11	1228
GSFC	Lowman, P. D.	CALIF INST OF TECH	NSG 5058	Allen, C. R.	39	1234
GSFC	McAvoy, N.	CASE WESTERN RESERVE	NGR 36-027-068	Pao, Y. H.	13	3087
GSFC	McAvoy, N.	CASE WESTERN RESERVE	S-27376B	Pao, Y. H.	45	3101
GSFC	Fichtel, C. E.	CATHOLIC UNIVERSITY	NGR 09-005-077	Crannell, H.	12	1838
GSFC	Stief, L. J.	CATHOLIC UNIVERSITY	NGR 09-005-103	Timmons, R. B.	12	1840
GSFC	Dennis, B. R.	CATHOLIC UNIVERSITY	NSG 5066	Werntz, C.	13	1841
GSFC	Reinhardt, V. S.	CATHOLIC UNIVERSITY	NSG 5107	Major, F. G.	13	1842
GSFC	McAvoy, N.	CATHOLIC UNIVERSITY	NSG 5111	Lally, J.	13	1843
GSFC	Mueller, J. L.	CITY COLLEGE OF N Y	NAS 5-22392	Pierson, W. J.	33	2847
GSFC	Stothers, R. B.	CITY COLLEGE OF N Y	NGL 33-013-040	Erlbach, E.	11	2852
GSFC	Halem, M.	CITY COLLEGE OF N Y	NGR 33-013-086	Spar, J.	31	2853
GSFC	Miller, J. E.	CITY COLLEGE OF N Y	NSG 5013	Schilling, D. L.	45	2856
GSFC	Thekaekara, M. P.	COLORADO STATE UNIV	NAS 5-22372	Vonder Haar, T. H.	41	1723

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	Nelson, D.	COLORADO STATE UNIV	NAS 5-22959	Vonder Haar, T. H.	39	1724
GSFC	Theon, J. S.	COLORADO STATE UNIV	NGR 06-002-098	Reiter, E. R.	31	1740
GSFC	Curran, R. J.	COLORADO STATE UNIV	NGR 06-002-102	Vonder Haar, T. H.	31	1741
GSFC	Carpenter, L. H.	COLORADO STATE UNIV	NGR 06-002-191	Thompson, E. G.	32	1747
GSFC	Adler, R. F.	COLORADO STATE UNIV	NSG 5011	Vonder Haar, T. H.	31	1754
GSFC	Neil, E. A.	COLORADO STATE UNIV	NSG 5073	Marlatt, W. E.	31	1755
GSFC	Rados, R. M.	COLORADO STATE UNIV	NSG 5105	Sinclair, P. C.	31	1756
GSFC	Jennings, N.	COLUMBIA UNIVERSITY	NAS 5-20023	Fountain, T. D.	99	2863
GSFC	Guntharp, P. A.	COLUMBIA UNIVERSITY	NAS 5-22311	Fountain, T. D.	99	2864
GSFC	Donley, J. L.	COLUMBIA UNIVERSITY	NAS 5-22341	Novick, R.	11	2865
GSFC	Worrall, W.	COLUMBIA UNIVERSITY	NAS 5-22408	Novick, R.	31	2866
GSFC	White, A. F., Jr.	COLUMBIA UNIVERSITY	NAS 5-22890	Novick, R.	11	2867
GSFC	Jennings, N.	COLUMBIA UNIVERSITY	NAS 5-22936	Lewis, J. P.	99	2868
GSFC	Weinreb, M. B.	COLUMBIA UNIVERSITY	NAS 5-23623	Novick, R.	11	2869
GSFC	Bissell, E. E., Jr.	COLUMBIA UNIVERSITY	NGR 33-008-102	Novick, R.	11	2875
GSFC	Smith, D. E.	COLUMBIA UNIVERSITY	NGR 33-008-146	Scholz, C. H.	19	2876
GSFC	Thaddeus, P.	COLUMBIA UNIVERSITY	NGR 33-008-191	Hartmann, S. R.	11	2881
GSFC	Smith, D. E.	COLUMBIA UNIVERSITY	NSG 5072	Bilham, R. G.	32	2889
GSFC	Kupperian, J. E.	COLUMBIA UNIVERSITY	NSG 5079	Wolff, R. S.	11	2890
GSFC	Ungar, S. G.	COLUMBIA UNIVERSITY	NSG 5080	Webb, K. E.	32	2891
GSFC	Kupperian, J. E.	COLUMBIA UNIVERSITY	NSG 5118	Wolff, R. S.	11	2892
GSFC	Berg, O. E.	CONCORDIA COL-MOORHD	NAS 5-23557	Bailey, C. F.	11	2613
GSFC	Muckel, G. A.	COPPIN STATE COLLEGE	NGR 21-122-001	Sommerfeldt, D. E.	21	2274
GSFC	Webster, W. H., Jr.	COPPIN STATE COLLEGE	NSG 5051	McDermott, P. P.	12	2275
GSFC	Rosenzweig, M. B.	COPPIN STATE COLLEGE	NSG 5052	Pinsky, S. S.	21	2276
GSFC	Findlay, J. A.	CORNELL UNIVERSITY	NAS 5-20705	Walker, J. C.	13	2902
GSFC	Hymowitz, E. W.	CORNELL UNIVERSITY	NAS 5-22586	Houck, J. R.	11	2903
GSFC	Conrath, B. J.	CORNELL UNIVERSITY	NAS 5-23236	Gierasch, P. J.	13	2904
GSFC	Trombka, J. I.	CORNELL UNIVERSITY	NSG 5037	Greisen, K. I.	11	2930
GSFC	Smith, D. E.	CORNELL UNIVERSITY	NSG 5060	Turcotte, D. L.	32	2931
GSFC	Westrom, J. L.	DC TEACHERS COLLEGE	NGR 09-053-003	Bever, R. S.	39	1845
GSFC	Jastrow, R.	DARTMOUTH COLLEGE	NSG 5014	Huke, R. E.	39	2734
GSFC	Aiken, A. C.	DELAWARE STATE COL	NGR 08-002-005	Helmy, E. M.	13	1829
GSFC	Nelson, E. D.	DREXEL UNIVERSITY	NAS 5-22946	House, F. B.	13	3205
GSFC	Rodriquez, G. E.	DUKE UNIVERSITY	NAS 5-22475	Wilson, T. G.	45	3046
GSFC	Rodriguez, G. E.	DUKE UNIVERSITY	NGL 34-001-001	Simonett, D. S.	45	3047
GSFC	Trombka, J. I.	DUKE UNIVERSITY	NGR 34-001-041	O'Foghludha, F. R.	11	3048
GSFC	Cote, C. E.	DUKE UNIVERSITY	NSG 5020	Wang, P. P.	45	3051
GSFC	Heath, D. F.	FAIRFIELD UNIVERSITY	NGR 07-010-002	McElaney, J. H.	31	1816
GSFC	McDonald, F. B.	FEDERAL CITY COLLEGE	NGR 09-050-001	Whiteside, H.	13	1847
GSFC	Webster, W. H., Jr.	FEDERAL CITY COLLEGE	NGR 09-050-003	Nottingham, W. C.	11	1848
GSFC	Alterescu, S.	FEDERAL CITY COLLEGE	NGR 09-050-013	Friedman, C.	52	1850
GSFC	Nava, D. E.	FEDERAL CITY COLLEGE	NGR 09-050-019	Phelps, H. L.	39	1851
GSFC	Fuchs, A. J.	FEDERAL CITY COLLEGE	NGR 09-050-020	Bakshi, J. S.	21	1852
GSFC	Lancaster, E. R.	FEDERAL CITY COLLEGE	NSG 5003	Johnson, E. S.	21	1853
GSFC	Langel, R. A.	FLORIDA INST OF TECH	NSG 5038	Jin, R. S.	13	1905
GSFC	Schnetzler, C. C.	FLORIDA STATE UNIV	NAS 5-22578	Buie, B. F.	32	1907
GSFC	Hobbs, R. W.	FLORIDA TECH UNIV	NSG 5110	Katzin, J. C.	11	1915
GSFC	Chen, W. T.	GALLAUDET COLLEGE	NSG 5019	Tobin, H.	52	1854
GSFC	Levine, D. M.	GEORGIA INST OF TECH	NAS 5-20956	Robertson, D. W.	31	1965
GSFC	O'Donnell, H.	GEORGIA INST OF TECH	NAS 5-22344	Ryan, C. E.	45	1966
GSFC	Dod, L. R.	GEORGIA INST OF TECH	NAS 5-22422	Bassett, H. L.	45	1967
GSFC	King, J. L.	GEORGIA INST OF TECH	NAS 5-23603	Dees, J. W.	45	1968
GSFC	King, J. L.	GEORGIA INST OF TECH	NSG 5012	Dees, J. W.	45	1995
GSFC	King, J. L.	GEORGIA INST OF TECH	NSG 5082	Blue, M. D.	31	1996
GSFC	Picciolo, G. L.	HAHNEMANN MED COL	NAS 5-20865	Gutekunst, R. R.	59	3210
GSFC	Underhill, A. B.	HARVARD UNIVERSITY	NAS 5-20764	Dupree, A. K.	11	2382
GSFC	Donley, J. L.	HARVARD UNIVERSITY	NAS 5-22343	Reeves, E. M.	11	2383

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	White, A. F., Jr.	HARVARD UNIVERSITY	NAS 5-22374	Withbroe, G. L.	11	2384
GSFC	Findlay, J. A.	HARVARD UNIVERSITY	NAS 5-23199	McElroy, M. B.	31	2385
GSFC	Underhill, A. B.	HARVARD UNIVERSITY	NAS 5-23371	Dupree, A. K.	11	2386
GSFC	Donley, J. L.	HARVARD UNIVERSITY	NAS 5-23494	Reeves, E. M.	31	2387
GSFC	McAvoy, N.	HARVARD UNIVERSITY	NGL 22-007-117	Bloembergen, N.	13	2393
GSFC	Theon, J. S.	HARVARD UNIVERSITY	NGR 22-007-275	Lindzen, R. S.	31	2404
GSFC	Kupperian, J. E.	HARVARD UNIVERSITY	NGR 22-007-285	Noyes, R. W.	11	2405
GSFC	Kupperian, J. E.	HARVARD UNIVERSITY	NSG 5099	Dupree, A. K.	11	2408
GSFC	Mundy, J. R.	HOWARD UNIVERSITY	NCA 5-14	Cox, E. L.	49	1878
GSFC	Chen, W. T.	HOWARD UNIVERSITY	NGR 09-011-055	Fischmann, E. J.	52	1882
GSFC	Yin, L. I.	HOWARD UNIVERSITY	NGR 09-011-057	Tsang, T.	13	1883
GSFC	Alterescu, S.	HOWARD UNIVERSITY	NSG 5016	Shepard, J.	53	1888
GSFC	Maran, S. P.	HOWARD UNIVERSITY	NSG 5021	Kumar, C. K.	11	1889
GSFC	Stief, L. J.	HOWARD UNIVERSITY	NSG 5071	Jackson, W. M.	12	1890
GSFC	Alterescu, S.	HOWARD UNIVERSITY	NSG 5081	Deloatch, E. M.	53	1891
GSFC	Picciolo, G. L.	HOWARD UNIVERSITY	NSG 5104	Okrend, H. H.	51	1892
GSFC	Hobbs, R. W.	INDIANA U-BLOOMINGTN	NAS 5-22987	Falk, J.	11	2101
GSFC	Corrigan, J. P.	JOHNS HOPKINS UNIV	NAS 5-11415	Doering, D. M.	31	2278
GSFC	Boggess, A.	JOHNS HOPKINS UNIV	NAS 5-23316	Fastie, W. G.	11	2279
GSFC	Bissell, E. E., Jr.	JOHNS HOPKINS UNIV	NGR 21-001-001	Fastie, W. G.	11	2282
GSFC	Sobieski, S.	JOHNS HOPKINS UNIV	NGR 21-001-115	Fastie, W. G.	11	2284
GSFC	Kupperian, J. E.	JOHNS HOPKINS UNIV	NSG 5029	Henry, R. C.	11	2286
GSFC	Maran, S. P.	JOHNS HOPKINS UNIV	NSG 5065	Feldman, P. D.	11	2287
GSFC	Kupperian, J. E.	JOHNS HOPKINS UNIV	NSG 5067	Moos, H. W.	11	2288
GSFC	Kupperian, J. E.	JOHNS HOPKINS UNIV	NSG 5078	Henry, R. C.	11	2289
GSFC	Coates, R. J.	JOHNS HOPKINS UNIV	NSG 5090	Marsh, B. D.	32	2290
GSFC	Kupperian, J. E.	JOHNS HOPKINS UNIV	NSG 5119	Henry, R. C.	11	2291
GSFC	Salomonson, V. V.	KANSAS STATE UNIV	NSG 5101	Kanemasu, E. T.	31	2185
GSFC	Alterescu, S.	LINCOLN UNIV-PA	NSG 5008	Frankowsky, J. W.	52	3226
GSFC	Ormes, J. F.	LA STATE U-BAT ROUGE	NAS 5-20883	Huggett, R. W.	13	2242
GSFC	Davis, M. A.	MASS INST OF TECH	NAS 5-11062	Bridge, H. S.	13	2423
GSFC	Ostaff, W. A.	MASS INST OF TECH	NAS 5-11082	Clark, G. W.	19	2424
GSFC	Piterski, N. J.	MASS INST OF TECH	NAS 5-11450	Clark, G. W.	11	2425
GSFC	Ratliff, R. B.	MASS INST OF TECH	NAS 5-21980	Staelin, D. H.	31	2426
GSFC	Staelin, D.	MASS INST OF TECH	NAS 5-22485	Shive, J.	19	2427
GSFC	Heath, D. F.	MASS INST OF TECH	NAS 5-22915	Cunnold, S.	31	2428
GSFC	Gloersen, P.	MASS INST OF TECH	NAS 5-22929	Staelin, D. H.	41	2429
GSFC	Weinreb, M. B.	MASS INST OF TECH	NAS 5-23624	Bradt, H. V.	11	2430
GSFC	Halem, M.	MASS INST OF TECH	NGR 22-009-727	Stone, P. H.	31	2474
GSFC	Bissell, E. E., Jr.	MASS INST OF TECH	NGR 22-009-730	Bradt, H. V.	11	2475
GSFC	McElroy, J. H.	MASS INST OF TECH	NGR 22-009-741	Javan, A.	13	2478
GSFC	Sobieski, S.	MASS INST OF TECH	NGR 22-009-776	McCord, T. B.	11	2480
GSFC	Clark, T. A.	MASS INST OF TECH	NGR 22-009-839	Counselman, C. C., III	99	2489
GSFC	Hansen, J. E.	MASS INST OF TECH	NSG 5076	Rivas, E. K.	11	2515
GSFC	Wexler, R.	MASS INST OF TECH	NSG 5095	Austin, P. M.	31	2516
GSFC	Hansen, J. E.	MASS INST OF TECH	NSG 5113	Stone, P. H.	31	2517
GSFC	Alterescu, S.	MOREHOUSE COLLEGE	NAS 5-23571	Norris, T. E.	52	2001
GSFC	Friedman, D. S.	MORGAN STATE UNIV	NAS 5-23558	Collagan, R. B.	49	2293
GSFC	Shorter, C. W.	MORGAN STATE UNIV	NGR 21-025-011	Collagan, R. B.	99	2294
GSFC	Mundy, J. R.	MORGAN STATE UNIV	NGT 21-025-006	Proctor, N. K.	19	2295
GSFC	Baker, G. R.	MORGAN STATE UNIV	NSG 5074	Hammond, E. C., Jr.	11	2296
GSFC	Broderick, J. C.	NEW MEX INST MINING	NAS 5-20916	Vander Linden, K.	32	2796
GSFC	Maran, S. P.	NEW MEX INST MINING	NCA 5-43	Hume, W.	11	2797
GSFC	Maran, S. P.	NEW MEX INST MINING	NCA 5-48	Hume, W.	19	2798
GSFC	Maran, S. P.	NEW MEX INST MINING	NCA 5-58	Hume, W.	11	2799
GSFC	Maran, S. P.	NEW MEX INST MINING	NCA 5-59	Hume, W.	11	2800
GSFC	Bissell, E. E., Jr.	NEW MEX ST U-LAS CR	NAS 5-20681	Sayles, A., Jr.	19	2803
GSFC	Halem, M.	NEW YORK UNIVERSITY	NGL 33-016-013	Isaacson, E.	31	2942

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	Schneck, P. B.	NEW YORK UNIVERSITY	NSG 5032	Schwartz, J. T.	13	2953
GSFC	Stewart, R. W.	NEW YORK UNIVERSITY	NSG 5033	Hoffert, M. I.	31	2954
GSFC	Halem, M.	NEW YORK UNIVERSITY	NSG 5034	Isaacson, E.	31	2955
GSFC	Halem, M.	NEW YORK UNIVERSITY	NSG 5045	Hoffert, M. I.	31	2956
GSFC	McAvoy, N.	N CAR CENTRAL UNIV	NSG 5120	Dutta, J. M.	13	3056
GSFC	Hirschmann, E.	OHIO STATE UNIV	NAS 5-20521	Founty, R. A.	39	3111
GSFC	Hirschmann, E.	OHIO STATE UNIV	NAS 5-21983	Levis, C. A.	31	3112
GSFC	Hirschmann, E.	OHIO STATE UNIV	NAS 5-22575	Hodge, D. B.	45	3113
GSFC	Zwally, H. J.	OHIO STATE UNIV	NAS 5-23380	Rayner, J. N.	39	3114
GSFC	Hirschmann, E.	OHIO STATE UNIV	NGR 36-008-080	Ksienski, A. A.	45	3121
GSFC	Marsh, J. G.	OHIO STATE UNIV	NGR 36-008-161	Rapp, R. H.	32	3122
GSFC	Bonavito, N.	OHIO UNIVERSITY	NAS 5-20885	Tanuka, T.	13	3132
GSFC	Kelsall, T. N.	OLD DOMINION UNIV	NSG 5053	Becher, J.	19	3660
GSFC	Mueller, J. L.	OREGON STATE UNIV	NAS 5-22319	Zuneveld, R. V.	33	3180
GSFC	Schnetzler, C. C.	PENN STATE U-UNIV PK	NAS 5-22304	McMurtry, G. J.	32	3228
GSFC	Podwysocki, M. H.	PENN STATE U-UNIV PK	NAS 5-22822	Gold, D. P.	32	3229
GSFC	Szajna, E. F.	PENN STATE U-UNIV PK	NAS 5-23133	McMurtry, G. J.	39	3230
GSFC	Halem, M.	POLY INST OF NY	NSG 5041	Miller, J. E.	31	2969
GSFC	Kupperian, J. E.	PRINCETON UNIVERSITY	NAS 5-1810	Spitzer, L., Jr.	11	2753
GSFC	Sobieski, S.	PRINCETON UNIVERSITY	NAS 5-20833	Lowrance, J. L.	11	2754
GSFC	Leckrone, D. S.	PRINCETON UNIVERSITY	NAS 5-22360	Jenkins, E. B.	32	2755
GSFC	Kelsall, T. N.	PRINCETON UNIVERSITY	NAS 5-22482	Spitzer, L., Jr.	12	2756
GSFC	Sobieski, S.	PRINCETON UNIVERSITY	NAS 5-22989	Morton, D. C.	11	2757
GSFC	Sobieski, S.	PRINCETON UNIVERSITY	NAS 5-23284	Danielson, R. E.	11	2758
GSFC	Tycz, M.	PRINCETON UNIVERSITY	NAS 5-23386	Lowrance, J. L.	11	2759
GSFC	Tycz, M.	PRINCETON UNIVERSITY	NAS 5-23387	Lowrance, J. L.	11	2760
GSFC	Kupperian, J. E.	PRINCETON UNIVERSITY	NAS 5-23576	Spitzer, L., Jr.	11	2761
GSFC	Barbieri, R. W.	PRINCETON UNIVERSITY	NGR 31-001-152	Lion, P. M.	42	2768
GSFC	Sobieski, S.	PRINCETON UNIVERSITY	NGR 31-001-306	Morton, D. C.	11	2774
GSFC	Kelsall, T. N.	PRINCETON UNIVERSITY	NSG 5063	Lowrance, J. L.	49	2786
GSFC	Stonesifer, G. R.	PURDUE UNIVERSITY	NAS 5-20793	Bauer, M. E.	59	2114
GSFC	Pritchard, J. A.	PURDUE UNIVERSITY	NAS 5-20922	Phillips, T. L.	49	2115
GSFC	Langel, R. A.	PURDUE UNIVERSITY	NAS 5-22816	Hinze, W. J.	32	2116
GSFC	Lynch, T. J.	PURDUE UNIVERSITY	NSG 5010	Wintz, P. A.	32	2140
GSFC	Meese, K. J.	RICE UNIVERSITY	NAS 5-9317	Anderson, H. R., Jr.	32	3382
GSFC	Taylor, H. A., Jr.	RICE UNIVERSITY	NAS 5-23338	Cloutier, P. A.	13	3383
GSFC	Halem, M.	ST U NY COL-PURCHASE	NSG 5077	Tenenbaum, J.	31	3031
GSFC	Short, N. M.	ST LAWRENCE UNIV	NSG 5018	Erickson, J. M.	32	2988
GSFC	Roosen, R. G.	SAN DIEGO STATE UNIV	NAS 5-23249	Angione, R. J.	11	1273
GSFC	Reinhardt, V. S.	SO DAKOTA SCHL MINES	NAS 5-23470	Gruber, C. L.	45	3314
GSFC	Gordon, F.	SO DAKOTA STATE UNIV	NAS 5-20982	Schmer, F.	32	3315
GSFC	Baker, J.	STANFORD UNIVERSITY	NAS 5-10102	Villard, O. G.	45	1340
GSFC	Davis, M. A.	STANFORD UNIVERSITY	NAS 5-20871	Helliwell, R. A.	13	1341
GSFC	Campbell, C. E.	STANFORD UNIVERSITY	NAS 5-20987	Hofstadter, R.	11	1342
GSFC	Lidston, J. M.	STANFORD UNIVERSITY	NAS 5-21960	Debra, D. B.	42	1343
GSFC	Ostrow, H.	STANFORD UNIVERSITY	NAS 5-23522	MacOvski, A.	19	1344
GSFC	Weinreb, M. B.	STANFORD UNIVERSITY	NAS 5-23618	Walker, A. B., Jr.	11	1345
GSFC	Heath, D. F.	STANFORD UNIVERSITY	NSG 5024	Wilcox, J. M.	31	1435
GSFC	Schutt, J. B.	STANFORD UNIVERSITY	NSG 5050	Lyon, R. J.	32	1436
GSFC	Chen, W. T.	ST U NY-DNST MED CTR	NAS 5-22277	Fealey, R. D.	52	3027
GSFC	Chiu, H. Y.	STATE U NY-STONY BRK	NGL 33-015-082	Owen, T.	11	3007
GSFC	Hansen, J. E.	STATE U NY-STONY BRK	NGR 33-015-165	Owen, T.	31	3014
GSFC	Mangus, J. D.	STATE U NY-STONY BRK	NGR 33-015-196	Stroke, G. W.	13	3017
GSFC	Hansen, J. E.	STATE U NY-STONY BRK	NSG 5015	Hogan, J. S.	31	3019
GSFC	Stewart, R. W.	STATE U NY-STONY BRK	NSG 5102	Hogan, J. S.	31	3020
GSFC	Stonesifer, G. R.	TEXAS A&M UNIVERSITY	NAS 5-20796	Rouse, J.	59	3405
GSFC	Gordon, F.	TEXAS A&M UNIVERSITY	NAS 5-22534	Harwood, P.	39	3406
GSFC	Damon, E. P.	TEXAS A&M UNIVERSITY	NAS 5-22840	Simmons, D. B.	21	3407

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	Hovis, W. A.	TEXAS A&M UNIVERSITY	NAS 5-22966	El-Sayed, S. Z.	31	3408
GSFC	Schmugge, T.	TEXAS A&M UNIVERSITY	NAS 5-23458	Blanchard, B. J.	39	3409
GSFC	McAvoy, N.	UNION COLLEGE	NGR 33-032-004	Galantowicz, A.	13	3034
GSFC	Broderick, J. C.	UNIV ALASKA-FAIRBNKS	NAS 5-20803	Gedney, L.	32	1083
GSFC	Oseroff, H.	UNIV ALASKA-FAIRBNKS	NAS 5-20915	Lent, P.	39	1084
GSFC	Crump, E.	UNIV ALASKA-FAIRBNKS	NAS 5-20959	Stringer, W.	33	1085
GSFC	Crump, E. W.	UNIV ALASKA-FAIRBNKS	NAS 5-21833	Belon, A. E.	31	1086
GSFC	Hymowitz, E. W.	UNIV OF ARIZONA	NAS 5-22599	Low, F. J.	11	1105
GSFC	Browning, R. K.	UNIV OF ARIZONA	NAS 5-23176	Bowen, T.	11	1106
GSFC	Maran, S. P.	UNIV OF ARIZONA	NCA 5-8	Dunkelman, L.	11	1121
GSFC	Maran, S. P.	UNIV OF ARIZONA	NCA 5-12	Sonett, C. P.	11	1122
GSFC	Maran, S. P.	UNIV OF ARIZONA	NCA 5-37	Dunkelman, L.	11	1123
GSFC	Maran, S. P.	UNIV OF ARIZONA	NCA 5-38	Burke, J. J.	19	1124
GSFC	Maran, S. P.	UNIV OF ARIZONA	NCA 5-39	Epps, H. W.	19	1125
GSFC	Pearl, J. C.	UNIV OF ARIZONA	NCA 5-47	Fink, U. W.	11	1126
GSFC	Maran, S. P.	UNIV OF ARIZONA	NCA 5-62	Sonett, C. P.	11	1127
GSFC	Sobieski, S.	UNIV OF ARIZONA	NGR 03-002-363	Serkowski, K. M.	11	1143
GSFC	Sobieski, S.	UNIV OF ARIZONA	NGR 03-002-372	Gilbert, G. R.	11	1146
GSFC	Heath, D. F.	UNIV OF ARIZONA	NGR 03-002-382	Herman, B. M.	31	1147
GSFC	Sobieski, S.	UNIV OF ARIZONA	NSG 5001	Angel, J. R.	11	1152
GSFC	McAvoy, N.	UNIV OF ARIZONA	NSG 5022	Lamb, W. E., Jr.	13	1153
GSFC	Levine, D. M.	UNIV OF ARIZONA	NSG 5023	Krider, E. P.	31	1154
GSFC	Hansen, J. E.	UNIV OF ARIZONA	NSG 5043	Gehrels, A. M.	11	1155
GSFC	Curran, R. J.	UNIV OF ARIZONA	NSG 5046	Herman, B. M.	31	1156
GSFC	Szajna, E. F.	UNIV ARKANSAS-FAYETV	NAS 5-20810	MacDonald, H.	39	1174
GSFC	Davis, M. A.	UNIV CALIF-BERKELEY	NAS 5-20079	Anderson, K. A.	13	1442
GSFC	Davis, M. A.	UNIV CALIF-BERKELEY	NAS 5-20080	Mozer, F. S.	13	1443
GSFC	Davis, M. A.	UNIV CALIF-BERKELEY	NAS 5-20838	Anderson, K. A.	13	1444
GSFC	Stonesifer, G. R.	UNIV CALIF-BERKELEY	NAS 5-20969	Colwell, R. N.	32	1445
GSFC	Davis, M. A.	UNIV CALIF-BERKELEY	NAS 5-20995	Heckman, H.	13	1446
GSFC	Gallagher, W. F.	UNIV CALIF-BERKELEY	NAS 5-22307	Anderson, K. A.	32	1447
GSFC	Bissell, E. E., Jr.	UNIV CALIF-BERKELEY	NGR 05-003-239	Moser, F. S.	13	1475
GSFC	Bissell, E. E., Jr.	UNIV CALIF-BERKELEY	NGR 05-003-450	Bowyer, C. S.	11	1479
GSFC	Kupperian, J. E.	UNIV CALIF-BERKELEY	NGR 05-003-587	Spinrad, H.	11	1492
GSFC	Kupperian, J. E.	UNIV CALIF-BERKELEY	NSG 5057	Bowyer, C. S.	11	1504
GSFC	Chang, T. C.	UNIV CALIF-BERKELEY	NSG 5093	Angelakos, D. J.	49	1505
GSFC	Nelson, D.	UNIV CALIF-DAVIS	NAS 5-22964	Coulson, K. L.	41	1513
GSFC	Salomonson, V. V.	UNIV CALIF-DAVIS	NSG 5092	Algazi, V. R.	39	1528
GSFC	Wales, R. O.	UNIV CALIF-L ANGELES	NAS 5-11674	McPherron, R. L.	32	1538
GSFC	Davis, M. A.	UNIV CALIF-L ANGELES	NAS 5-20064	Russell, C. T.	13	1539
GSFC	Halem, M.	UNIV CALIF-L ANGELES	NGR 05-007-328	Mintz, Y.	31	1567
GSFC	Kupperian, J. E.	UNIV CALIF-L ANGELES	NGR 05-007-489	Plavec, M.	11	1577
GSFC	Kupperian, J. E.	UNIV CALIF-L ANGELES	NSG 5056	Peters, C. J.	11	1583
GSFC	Kupperian, J. E.	UNIV CALIF-L ANGELES	NSG 5070	Jura, M. A.	11	1584
GSFC	Temkin, A.	UNIV CALIF-RIVERSIDE	NGL 05-008-005	Poe, R. T.	13	1592
GSFC	Berko, F. W.	UNIV CALIF-SAN DIEGO	NAS 5-11080	Baity, W. A.	19	1595
GSFC	Donley, J. L.	UNIV CALIF-SAN DIEGO	NAS 5-11081	Peterson, L. E.	31	1596
GSFC	Wales, R. O.	UNIV CALIF-SAN DIEGO	NAS 5-21055	McIlwain, C. E.	13	1597
GSFC	White, A. F., Jr.	UNIV CALIF-SAN DIEGO	NAS 5-22375	Peterson, L. E.	11	1598
GSFC	Hymowitz, E. W.	UNIV CALIF-SAN DIEGO	NAS 5-22556	Soifer, B. T.	11	1599
GSFC	Bartlett, R. O.	UNIV CALIF-SAN DIEGO	NAS 5-23481	McIlwain, C. E.	11	1600
GSFC	Sobieski, S.	UNIV CALIF-SAN DIEGO	NGR 05-009-239	Beaver, E. A.	11	1629
GSFC	Carpenter, L.	UNIV CALIF-SAN DIEGO	NGR 05-009-246	Berger, J.	39	1630
GSFC	Shulman, A. R.	UNIV CALIF-SAN DIEGO	NGR 05-009-260	Lee, S. H.	13	1632
GSFC	Schaefer, D. H.	UNIV CALIF-SAN DIEGO	NGR 05-009-264	Lee, S. H.	49	1633
GSFC	Mead, G. D.	UNIV CALIF-SAN DIEGO	NSG 5089	Jordan, T. H.	32	1638
GSFC	Hovis, W. A.	UNIV CALIF-S BARBARA	NSG 5106	Estes, J. E.	33	1659
GSFC	Davis, M. A.	UNIV OF CHICAGO	NAS 5-11067	Simpson, J. A.	13	2052

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	Gallagher, W. F.	UNIV OF CHICAGO	NAS 5-20674	Meyer, P.	13	2053
GSFC	White, A. F., Jr.	UNIV OF CHICAGO	NAS 5-20967	Meyer, P.	11	2054
GSFC	Shenk, W. E.	UNIV OF CHICAGO	NGR 14-001-008	Fujita, T. T.	31	2063
GSFC	Kupperian, J. E.	UNIV OF CHICAGO	NSG 5068	Parker, E. N.	11	2073
GSFC	Lafleur, W.	UNIV OF CHILE	NAS 5-1925	Danyau, C. R.	99	3818
GSFC	Lancaster, E. R.	UNIV OF CINCINNATI	NGR 36-004-068	Danielli, J. F.	11	3138
GSFC	Findlay, J. A.	UNIV COLORADO-BOLDR	NAS 5-11405	Barth, C. A.	31	1759
GSFC	Broderick, J. C.	UNIV COLORADO-BOLDR	NAS 5-20914	Ives, J. D.	32	1760
GSFC	Szajna, E. F.	UNIV COLORADO-BOLDR	NAS 5-20948	Krebs, P.	59	1761
GSFC	Worrall, W.	UNIV COLORADO-BOLDR	NAS 5-22409	Bruner, E. C., Jr.	31	1762
GSFC	Pirraglia, J.	UNIV COLORADO-BOLDR	NAS 5-22440	Hard, C.	31	1763
GSFC	Underhill, A. B.	UNIV COLORADO-BOLDR	NAS 5-22833	Conti, P. S.	11	1764
GSFC	Weinreb, M. R.	UNIV COLORADO-BOLDR	NAS 5-22960	Barth, C. A.	11	1765
GSFC	Underhill, A. B.	UNIV COLORADO-BOLDR	NAS 5-23274	Linsky, J. L.	11	1766
GSFC	Benson, R. F.	UNIV COLORADO-BOLDR	NAS 5-23346	Calvert, W.	31	1767
GSFC	Kalet, M. W.	UNIV COLORADO-BOLDR	NAS 5-23577	Gause, K.	11	1768
GSFC	Bissell, E. E., Jr.	UNIV COLORADO-BOLDR	NGR 06-003-176	Lillie, C. F.	11	1779
GSFC	Sobieski, S.	UNIV COLORADO-BOLDR	NGR 06-003-219	Lillie, C. F.	11	1786
GSFC	Kupperian, J. E.	UNIV COLORADO-BOLDR	NSG 5098	Conti, P. S.	11	1794
GSFC	Bissell, E. E., Jr.	UNIV COLORADO-BOLDR	NSG 5103	Barth, C. A.	19	1795
GSFC	Friedman, D. S.	UNIV OF CONNECTICUT	NAS 5-22539	Wilde, D. U.	99	1817
GSFC	Halem, M.	UNIV OF CONNECTICUT	NSG 5075	Bock, P.	31	1821
GSFC	Crump, E. W.	UNIV OF DELAWARE	NAS 5-20983	Klemas, V.	33	1831
GSFC	Goldberg, R.	UNIV OF DENVER	NAS 5-22981	Barcus, J. R.	19	1804
GSFC	Hobbs, R. W.	UNIV OF DENVER	NAS 5-23190	Edrich, J.	13	1805
GSFC	Kupperian, J. E.	UNIV OF DENVER	NSG 5004	Lesh, J. R.	11	1813
GSFC	Kupperian, J. E.	UNIV OF DENVER	NSG 5069	Lesh, J. R.	11	1814
GSFC	Heath, D. F.	UNIV OF FLORIDA	NAS 5-22908	Green, A. E.	49	1916
GSFC	Peake, H. J.	UNIV OF FLORIDA	NSG 5061	Bailey, R. L.	45	1930
GSFC	Kupperian, J. E.	UNIV OF FLORIDA	NSG 5116	Chen, K. W.	11	1931
GSFC	Bissell, E. E., Jr.	UNIV OF HAWAII-MANOA	NGR 12-001-075	Jeffries, J. T.	11	2027
GSFC	Kupperian, J. E.	UNIV OF HAWAII-MANOA	NSG 5027	Boesgaard, A. M.	11	2030
GSFC	Kupperian, J. E.	UNIV OF HAWAII-MANOA	NSG 5096	Boesgaard, A. M.	11	2031
GSFC	Bufton, J. L.	UNIV ILLINOIS-URBANA	NSG 5049	Gardner, C. S.	19	2095
GSFC	Davis, M. A.	UNIV OF IOWA	NAS 5-11064	Frank, L. A.	13	2169
GSFC	Denwiddie, M.	UNIV OF IOWA	NAS 5-11167	Gurnett, D. A.	13	2170
GSFC	Eaker, H. L.	UNIV OF IOWA	NAS 5-11265	Craven, J. D.	13	2171
GSFC	White, C. E.	UNIV OF IOWA	NAS 5-11279	Gurnett, D. A.	11	2172
GSFC	Davis, M. A.	UNIV OF IOWA	NAS 5-11431	Gurnett, D. A.	31	2173
GSFC	Davis, M. A.	UNIV OF IOWA	NAS 5-20093	Gurnett, D. A.	13	2174
GSFC	Davis, M. A.	UNIV OF IOWA	NAS 5-20094	Frank, L. A.	13	2175
GSFC	Allen, R. F., Jr.	UNIV OF IOWA	NAS 5-20539	Van Allen, J. A.	11	2176
GSFC	Broderick, J. C.	UNIV OF KANSAS	NAS 5-20943	Haralick, R. M.	32	2188
GSFC	Eckerman, J.	UNIV OF KANSAS	NAS 5-22325	Moore, R. K.	32	2189
GSFC	Shiue, J. C.	UNIV OF KANSAS	NAS 5-22384	Moore, R. K.	39	2190
GSFC	Wexler, R.	UNIV OF KANSAS	NSG 5086	Eagleman, J. R.	31	2215
GSFC	Davis, M. A.	UNIV MARYLAND-COL PK	NAS 5-11063	Gloeckler, G.	13	2299
GSFC	Davis, M. A.	UNIV MARYLAND-COL PK	NAS 5-20062	Gloeckler, G.	13	2300
GSFC	Stief, L. J.	UNIV MARYLAND-COL PK	NAS 5-20834	Ponnamperuma, C. A.	12	2301
GSFC	Spencer, N. W.	UNIV MARYLAND-COL PK	NAS 5-22537	Wilkerson, T. W.	31	2302
GSFC	Des Jardins, R.	UNIV MARYLAND-COL PK	NAS 5-22581	Basili, V. R.	21	2303
GSFC	Findlay, J. A.	UNIV MARYLAND-COL PK	NAS 5-22835	Messenger, C. J.	31	2304
GSFC	Barsky, J.	UNIV MARYLAND-COL PK	NAS 5-22878	Agrawala, A. K.	21	2305
GSFC	Conrath, B. J.	UNIV MARYLAND-COL PK	NAS 5-23237	Ponnamperuma, C. A.	13	2306
GSFC	Trombka, J. I.	UNIV MARYLAND-COL PK	NAS 5-23457	Sommer, S. E.	39	2307
GSFC	Fischel, D.	UNIV MARYLAND-COL PK	NCA 5-1	Rosenfeld, A.	11	2312
GSFC	Neupert, W. M.	UNIV MARYLAND-COL PK	NCA 5-3	Smith, E.	31	2313
GSFC	Kastner, S. O.	UNIV MARYLAND-COL PK	NCA 5-4	Martin, F. W.	31	2314

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	Dennis, B. R.	UNIV MARYLAND-COL PK	NCA 5-6	Rose, W.	19	2315
GSFC	Crannel, C. J.	UNIV MARYLAND-COL PK	NCA 5-7	Westerhaut, G.	19	2316
GSFC	Fischel, D.	UNIV MARYLAND-COL PK	NCA 5-10	Rosenfeld, A.	11	2317
GSFC	Fischel, D.	UNIV MARYLAND-COL PK	NCA 5-11	Harger, R.	11	2318
GSFC	Northrop, T. G.	UNIV MARYLAND-COL PK	NGL 21-002-033	Smith, E. V.	31	2320
GSFC	Fainberg, J.	UNIV MARYLAND-COL PK	NGL 21-002-367	Kundu, M. R.	11	2321
GSFC	Brace, L. H.	UNIV MARYLAND-COL PK	NGR 21-002-096	Matthews, D. L.	31	2326
GSFC	Ogilvie, K. W.	UNIV MARYLAND-COL PK	NGR 21-002-291	Coplan, M. A.	13	2330
GSFC	Teegarden, B. J.	UNIV MARYLAND-COL PK	NGR 21-002-316	Gloeckler, G.	13	2331
GSFC	Philpotts, J. A.	UNIV MARYLAND-COL PK	NGR 21-002-368	Weidner, J. R.	32	2334
GSFC	Smith, D. E.	UNIV MARYLAND-COL PK	NGR 21-002-390	Currie, D. G.	19	2336
GSFC	Rango, A.	UNIV MARYLAND-COL PK	NGR 21-002-399	Ragan, R. M.	32	2337
GSFC	Marini, J. W.	UNIV MARYLAND-COL PK	NGR 21-002-433	Harger, R. O.	33	2340
GSFC	Bufton, J. L.	UNIV MARYLAND-COL PK	NGR 21-002-444	Currie, D. G.	13	2341
GSFC	Salomonson, V. V.	UNIV MARYLAND-COL PK	NSG 5017	Ragan, R. M.	32	2349
GSFC	Clark, T. A.	UNIV MARYLAND-COL PK	NSG 5035	Richard, J. P.	11	2350
GSFC	Degnan, J. J.	UNIV MARYLAND-COL PK	NSG 5042	Hochuli, U. E.	49	2351
GSFC	Cressy, P. J.	UNIV MARYLAND-COL PK	NSG 5047	Sommer, S. E.	32	2352
GSFC	Levine, D. M.	UNIV MARYLAND-COL PK	NSG 5048	Harger, R. O.	45	2353
GSFC	Kupperian, J. E.	UNIV MARYLAND-COL PK	NSG 5059	Bell, R. A.	11	2354
GSFC	Fitzmaurice, M. W.	UNIV MARYLAND-COL PK	NSG 5062	Alley, C. O.	99	2355
GSFC	O'Keefe, J. A.	UNIV MARYLAND-COL PK	NSG 5083	Pai, S. I.	19	2356
GSFC	Theon, J. S.	UNIV MARYLAND-COL PK	NSG 5084	Thompson, O. E.	31	2357
GSFC	Philpotts, J. A.	UNIV MARYLAND-COL PK	NSG 5094	Adler, I.	32	2358
GSFC	Wasilewski, P. J.	UNIV MARYLAND-COL PK	NSG 5112	Weidner, J. R.	19	2359
GSFC	Nava, D. F.	UNIV MARYLAND-COL PK	NSG 5121	Weidner, J. R.	32	2360
GSFC	Fitzmaurice, M. W.	UNIV MD-EASTRN SHORE	NGR 21-119-001	Singh, G.	19	2367
GSFC	Szajna, E. F.	UNIV OF MASS-AMHERST	NAS 5-21871	Smith, H. P.	39	2535
GSFC	Rolinski, A. J.	UNIV OF MASS-AMHERST	NGL 22-010-018	Monopoli, R. V.	45	2536
GSFC	Thekaekara, M. P.	UNIV OF MIAMI	NAS 5-22417	Hiser, H. W.	19	1935
GSFC	Hovis, W. A.	UNIV OF MIAMI	NAS 5-22963	Gordon, H. R.	31	1936
GSFC	Shive, J.	UNIV OF MIAMI	S-55672A	Unavailable	45	1947
GSFC	Hedin, A.	UNIV MICH-ANN ARBOR	NAS 5-11376	Carignan, G. R.	31	2556
GSFC	Sing, M. L.	UNIV MICH-ANN ARBOR	NAS 5-11380	Cliff, R. A.	31	2557
GSFC	Wright, D. U., Jr.	UNIV MICH-ANN ARBOR	NAS 5-20622	Horvath, J. J.	31	2558
GSFC	Krehbiel, J. P.	UNIV MICH-ANN ARBOR	NAS 5-20806	Carrignan, G. R.	31	2559
GSFC	Davis, M. A.	UNIV MICH-ANN ARBOR	NAS 5-20839	Haddock, F. T.	13	2560
GSFC	Cooley, J. E.	UNIV MICH-ANN ARBOR	NAS 5-20939	Carignan, G. R.	31	2561
GSFC	Spencer, N. W.	UNIV MICH-ANN ARBOR	NAS 5-22441	Carignan, G. R.	13	2562
GSFC	Krehbiel, J. P.	UNIV MICH-ANN ARBOR	NAS 5-22587	Brace, L. H.	31	2563
GSFC	Way, S. H.	UNIV MICH-ANN ARBOR	NAS 5-22861	MacNee, A. B.	45	2564
GSFC	Trainor, J. H.	UNIV MICH-ANN ARBOR	NAS 5-22875	MacNee, A. B.	13	2565
GSFC	Corrigan, J. P.	UNIV MICH-ANN ARBOR	NAS 5-23006	Hays, P. B.	31	2566
GSFC	Spencer, N. W.	UNIV MICH-ANN ARBOR	NAS 5-23230	Carignan, G. R.	31	2567
GSFC	Ross, R. W.	UNIV MICH-ANN ARBOR	NAS 5-23267	Ponnamperuma, C. A.	45	2568
GSFC	Bissell, E. E., Jr.	UNIV MICH-ANN ARBOR	NGR 23-005-360	Sharp, W. E.	13	2580
GSFC	Curran, R. J.	UNIV MICH-ANN ARBOR	NSG 5044	Weil, H.	31	2598
GSFC	Kupperian, J. E.	UNIV MICH-ANN ARBOR	NSG 5097	Donahue, T. M.	11	2599
GSFC	Kupperian, J. E.	UNIV MICH-ANN ARBOR	NSG 5117	Donahue, T. M.	11	2600
GSFC	Levine, D. M.	UNIV MICH-ANN ARBOR	S-54214A	Senior, T. B.	31	2606
GSFC	Staff, W. O.	U MINN-MNPLS-ST PAUL	NAS 5-3838	Epney, O.	13	2618
GSFC	Sizemore, K. O.	U MINN-MNPLS-ST PAUL	NAS 5-11173	Cahill, L. J., Jr.	49	2619
GSFC	White, C. E.	U MINN-MNPLS-ST PAUL	NAS 5-11310	Kellogg, P. J.	11	2620
GSFC	Corrigan, J. P.	U MINN-MNPLS-ST PAUL	NAS 5-11438	Nier, A. O.	31	2621
GSFC	Wainscott, F. H.	U MINN-MNPLS-ST PAUL	NAS 5-11687	Winckler, J. R.	49	2622
GSFC	Davis, M. A.	U MINN-MNPLS-ST PAUL	NAS 5-20837	Kellogg, P. J.	13	2623
GSFC	Bissell, E. E., Jr.	U MINN-MNPLS-ST PAUL	NSG 5088	Winckler, J. R.	13	2642
GSFC	Curran, R. J.	UNIV MO-COLUMBIA	NAS 5-20818	Schuster, B. G.	31	2688

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	Poland, W. B., Jr.	UNIV MO-COLUMBIA	NAS 5-20826	Noack, T. L.	45	2689
GSFC	Szajna, E. F.	UNIV NEBRASKA-LINCLN	NAS 5-20814	Carlson, M. P.	49	2721
GSFC	Kalet, M. W.	UNIV NEBRASKA-LINCLN	NAS 5-22903	Samson, J. R.	13	2722
GSFC	Kalet, M. W.	UNIV NEBRASKA-LINCLN	NAS 5-23125	Samson, J. A.	13	2723
GSFC	Teegarden, B. J.	UNIV NEW HAMP-DURHAM	NAS 5-11276	Webber, W. R.	11	2736
GSFC	Wales, R. O.	UNIV NEW HAMP-DURHAM	NAS 5-11694	Arnoldy, R. L.	11	2737
GSFC	Orwig, L. E.	UNIV NEW HAMP-DURHAM	NAS 5-20884	Chupp, E. L.	13	2738
GSFC	Donley, J. L.	UNIV NEW HAMP-DURHAM	NAS 5-23493	Chapp, E. L.	11	2739
GSFC	Hyder, C. L.	UNIV OF NEW MEXICO	NCA 5-31	Regener, V. H.	31	2821
GSFC	Jones, H. P.	UNIV OF NEW MEXICO	NCA 5-32	Regener, V. H.	31	2822
GSFC	Hyder, C. L.	UNIV OF NEW MEXICO	NCA 5-34	Regener, V. H.	31	2823
GSFC	Maran, S. P.	UNIV OF NEW MEXICO	NCA 5-36	John, R. S.	31	2824
GSFC	Temkin, A.	UNIV OF NEW MEXICO	NCA 5-41	Beckel, C. L.	13	2825
GSFC	Temkin, A.	UNIV OF NEW MEXICO	NCA 5-55	Beckel, C. L.	11	2826
GSFC	Jones, H. P.	UNIV OF NEW MEXICO	NCA 5-56	Regener, V. H.	11	2827
GSFC	Maran, S. P.	UNIV OF NEW MEXICO	NCA 5-57	St John, R.	11	2828
GSFC	Lynch, T. J.	UNIV OF NOTRE DAME	NSG 5025	Massey, J. L.	45	2148
GSFC	Durrani, S. H.	UNIV OF PENNSYLVANIA	NAS 5-23479	Berkowitz, R. S.	45	3264
GSFC	Durrani, S. H.	UNIV OF PENNSYLVANIA	NSG 5064	Berkowitz, R. S.	45	3267
GSFC	Christie, C. J.	UNIV OF PERU	NASW 7	Unavailable	49	3825
GSFC	Kostiuk, T.	UNIV OF PITTSBURGH	NAS 5-22892	Falk, J.	43	3271
GSFC	Temkin, A.	UNIV OF PITTSBURGH	NGL 39-011-035	Gerjuoy, E.	13	3279
GSFC	Osantowski, J. F.	UNIV OF ROCHESTER	NAS 5-20028	Baumeister, P. W.	13	3035
GSFC	Kupperian, J. E.	UNIV OF ROCHESTER	NSG 5054	Savedoff, M. P.	11	3039
GSFC	Kutz, R. L.	UNIV OF SOUTHERN CAL	NAS 5-21505	Davisson, L. D.	45	1706
GSFC	Kutz, R. L.	UNIV OF SOUTHERN CAL	NGL 05-018-118	Andrews, H. C.	45	1712
GSFC	Bissell, E. E., Jr.	UNIV OF SOUTHERN CAL	NSG 5108	Judge, D. L.	13	1719
GSFC	Kunde, V. G.	UNIV TENNESSEE-KNOXV	NAS 5-20672	Fox, K.	31	3329
GSFC	Schaefer, D. H.	UNIV TENNESSEE-KNOXV	NSG 5002	Bodenheimer, R. E.	21	3347
GSFC	Velez, C. E.	UNIV TENNESSEE-KNOXV	NSG 5040	Feagin, T.	49	3348
GSFC	Allen, W. K.	U TENNESSEE-MEMPHIS	NAS 5-22495	Rochelle, R. W.	31	3350
GSFC	Fuchs, A. J.	UNIV TEXAS-AUSTIN	NAS 5-20946	Tapley, B. D.	49	3479
GSFC	Hirschmann, E.	UNIV TEXAS-AUSTIN	NAS 5-21982	Straiton, A. W.	45	3480
GSFC	Hirschmann, E.	UNIV TEXAS-AUSTIN	NAS 5-22576	Straiton, A. W.	45	3481
GSFC	Sobieski, S.	UNIV TEXAS-AUSTIN	NGR 44-012-260	Tull, R. G.	11	3503
GSFC	Sobieski, S.	UNIV TEXAS-AUSTIN	NGR 44-012-261	Nather, R. E.	11	3504
GSFC	Fuchs, A. J.	UNIV TEXAS-AUSTIN	NGR 44-012-269	Tapley, B. D.	49	3505
GSFC	Kolenkiewicz, R.	UNIV TEXAS-AUSTIN	NGR 44-012-283	Tapley, B. D.	32	3508
GSFC	Kupperian, J. E.	UNIV TEXAS-AUSTIN	NSG 5005	Lambert, D. L.	11	3513
GSFC	Kupperian, J. E.	UNIV TEXAS-AUSTIN	NSG 5031	Parsons, S. B.	11	3514
GSFC	Kupperian, J. E.	UNIV TEXAS-AUSTIN	NSG 5115	Smith, H. J.	11	3515
GSFC	Corrigan, J. P.	UNIV TEXAS-DALLAS	NAS 5-11406	Hoffman, J. H.	31	3523
GSFC	Corrigan, J. P.	UNIV TEXAS-DALLAS	NAS 5-11407	Hanson, W. B.	31	3524
GSFC	Bissell, E. E., Jr.	UNIV TEXAS-DALLAS	NGR 44-004-124	Heikkila, W. J.	13	3533
GSFC	Brace, L. H.	UNIV TEXAS-DALLAS	NSG 5085	Heikkila, W. J.	31	3537
GSFC	Brace, L. H.	UNIV TEXAS-DALLAS	NSG 5087	Hoffman, J. H.	31	3538
GSFC	Kupperian, J. E.	UNIV OF TOLEDO	NGR 36-010-031	Molnar, M. R.	11	3154
GSFC	Kupperian, J. E.	UNIV OF TOLEDO	NSG 5006	Molnar, M. R.	11	3158
GSFC	Broderick, J. C.	UNIV OF UTAH	NAS 5-20955	Nackowski, M.	32	3558
GSFC	Crump, E. W.	UNIV OF VIRGINIA	NAS 5-20999	Dolan, R.	39	3664
GSFC	Leckrone, D. S.	UNIV OF VIRGINIA	NAS 5-22346	Counselman, C. C., III	11	3665
GSFC	Morse, S.	UNIV OF VIRGINIA	NAS 5-23496	Gibson, J.	99	3666
GSFC	Sobieski, S.	UNIV OF VIRGINIA	NGR 47-005-204	Frederick, L. W.	11	3673
GSFC	Underhill, A. B.	UNIV OF WASHINGTON	NAS 5-22379	Bohm-Vitense, E.	11	3738
GSFC	Eberstein, I.	UNIV OF WASHINGTON	NSG 5039	Leovy, C. B.	31	3759
GSFC	Oberright, J. E.	UNIV WISC-MADISON	NAS 5-20068	Dombrowski, R. M.	49	3775
GSFC	Squires, R. K.	UNIV WISC-MADISON	NAS 5-20974	Suomi, V. E.	13	3776
GSFC	Theon, J. S.	UNIV WISC-MADISON	NAS 5-21798	Soumi, V. E.	31	3777

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
GSFC	Moody, J. C.	UNIV WISC-MADISON	NAS 5-21965	Suomi, V. E.	31	3778
GSFC	Leckrone, D. S.	UNIV WISC-MADISON	NAS 5-22349	Anderson, C. M.	11	3779
GSFC	Worrall, W.	UNIV WISC-MADISON	NAS 5-22410	Kraushaar, W. L.	31	3780
GSFC	Sobieski, S.	UNIV WISC-MADISON	NAS 5-23285	Bless, R. C.	11	3781
GSFC	Greaves, J. R.	UNIV WISC-MADISON	NAS 5-23296	Suomi, V. E.	31	3782
GSFC	Greaves, J. R.	UNIV WISC-MADISON	NAS 5-23462	Suomi, V. E.	31	3783
GSFC	Friedman, D. S.	UNIV WISC-MADISON	NAS 5-23500	Houston, N.	53	3784
GSFC	Bissell, E. E., Jr.	UNIV WISC-MADISON	NGL 50-002-013	Code, A. D.	11	3789
GSFC	Halem, M.	UNIV WISC-MADISON	NGR 50-002-215	Suomi, V. E.	31	3796
GSFC	Sobieski, S.	UNIV WISC-MADISON	NGR 50-002-223	Roesler, F. L.	11	3797
GSFC	Kupperian, J. E.	UNIV WISC-MADISON	NSG 5100	Savage, B. D.	11	3801
GSFC	Hirschmann, E.	VIRGINIA POLY INST	NAS 5-21984	Bostian, C. W.	45	3693
GSFC	Hirschmann, E.	VIRGINIA POLY INST	NAS 5-22577	Bostian, C. W.	45	3694
GSFC	Fedor, J. V.	VIRGINIA POLY INST	NGR 47-004-126	Meirovitch, L.	11	3703
GSFC	Ehrmann, C. H.	WASHINGTON TECH INST	NAS 5-22383	Brach, P. L.	45	1894
GSFC	Hobbs, R. W.	WASHINGTON TECH INST	NCA 5-40	Kasten, A.	11	1895
GSFC	Ehrmann, C. H.	WASHINGTON TECH INST	NGR 09-059-002	Brach, P.	45	1896
GSFC	Quann, J. J.	WASHINGTON UNIVERSTY	NAS 5-20680	Morgan, R. P.	99	2707
GSFC	Reinhardt, V. S.	WILLIAMS COLLEGE	NAS 5-23520	Crampton, S. B.	13	2541
GSFC	Sobieski, S.	YALE UNIVERSITY	NAS 5-20841	Van Altena, W. F.	11	1823
GSFC	Schaefer, D. H.	YALE UNIVERSITY	NGL 07-004-005	Barker, R. C.	45	1824
GSFC	Hansen, J. E.	YESHIVA UNIVERSITY	NGL 33-023-018	Cameron, A. G.	11	3042
JPL	Trajmar, S.	FLORIDA A&M UNIV	NSG 901	Jones, H. W.	13	1900
JPL	Huntress, W. T.	PAN AMERICAN UNIV	NGR 44-087-002	Glaser, F. M.	32	3377
JPL	Estabrook, F. B.	SO UNIV-BATON ROUGE	NGR 19-005-006	Chakkalakal, D. A.	11	2251
JPL	Bourke, R. D.	WESTERN NEW MEXICO U	NSG 902	Lundahl, C. R.	62	2840
JSC	Teasdale, W. E.	ALABAMA A&M UNIV	NAS 9-14770	Weathers, G. D.	45	1000
JSC	Leach, C. S.	BAYLOR COL OF MED	NAS 9-10537	Campbell, B. O.	52	3356
JSC	Leach, C. S.	BAYLOR COL OF MED	NAS 9-11201	Johnson, P. C.	59	3357
JSC	Shumate, W. H.	BAYLOR COL OF MED	NAS 9-13452	Roessler, R.	53	3358
JSC	Leach, C. S.	BAYLOR COL OF MED	NAS 9-13540	Di Ferrante, N.	59	3359
JSC	Smith, M. C., Jr.	BAYLOR COL OF MED	NAS 9-13737	Johnson, P. C.	53	3360
JSC	Kimzey, S. L.	BAYLOR COL OF MED	NAS 9-14322	Criswell, B. S.	52	3361
JSC	Kimzey, S. L.	BAYLOR COL OF MED	NAS 9-14368	Rich, R. R.	53	3362
JSC	Kimzey, S. L.	BAYLOR COL OF MED	NAS 9-14406	Martin, R. R.	53	3363
JSC	Kaplan, H. L.	BAYLOR COL OF MED	NAS 9-14407	Duncan, W. C.	52	3364
JSC	Kimzey, S. L.	BAYLOR COL OF MED	NAS 9-14468	Criswell, B. S.	53	3365
JSC	Homick, J. L.	BAYLOR COL OF MED	NAS 9-14546	Igarashi, M.	51	3366
JSC	Kimzey, S. L.	BAYLOR COL OF MED	NAS 9-14603	Gentry, L. O.	53	3367
JSC	Kimzey, S. L.	BAYLOR COL OF MED	NAS 9-14662	Johnson, P. C.	52	3368
JSC	Leach, C. S.	BAYLOR COL OF MED	NAS 9-14715	Suki, W. N.	59	3369
JSC	Morrison, D. R.	BAYLOR COL OF MED	NAS 9-14820	Twomey, J. J.	51	3370
JSC	Hoffler, G. W.	BAYLOR COL OF MED	NAS 9-15046	Alexander, J. K.	53	3371
JSC	Phinney, W. C.	BRIGHAM YOUNG UNIV	NAS 9-14499	Laole, G. H.	32	3552
JSC	Harris, J. W.	BROWN UNIVERSITY	NGR 40-002-123	Rutherford, M. J.	32	3298
JSC	Hoffman, R. A.	BRYN MAWR COLLEGE	NAS 9-14640	Oppenheimer, J. M.	51	3195
JSC	Harris, J. W.	BRYN MAWR COLLEGE	NSG 9005	Crawford, M. L.	13	3196
JSC	Harris, J. W.	CALIF INST OF TECH	NGL 05-002-187	Silver, L. T.	12	1208
JSC	Harris, J. W.	CALIF INST OF TECH	NGL 05-002-188	Wasserburg, G. J.	12	1209
JSC	Harris, J. W.	CALIF INST OF TECH	NGL 05-002-190	Epstein, S.	13	1210
JSC	Harris, J. W.	CALIF INST OF TECH	NGL 05-002-338	Albee, A. L.	13	1213
JSC	Harris, J. W.	CALIF INST OF TECH	NGR 05-002-333	Tombrello, T. A.	13	1229
JSC	Harris, J. W.	CALIF INST OF TECH	NSG 9019	Ahrens, T. J.	19	1247
JSC	Byrns, Z. H.	CITY COLLEGE OF N Y	NAS 9-13642	Pierson, W. J.	13	2849
JSC	Batson, B. H.	CITY COLLEGE OF N Y	NAS 9-13940	Schilling, D. L.	45	2850
JSC	Reveley, W. F.	CLEMSON UNIV-CLEMSON	NAS 9-13669	Gaddis, J. L.	46	3304
JSC	Barnett, T. L.	CLEMSON UNIV-CLEMSON	NAS 9-14006	Haun, J. R.	39	3305
JSC	Hoffman, R. A.	COLLEGE OF WM & MARY	NGR 47-006-054	Aceto, H., Jr.	51	3585

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
JSC	Barnett, T. L.	COLORADO STATE UNIV	NAS 9-14467	Smith, J. A.	39	1732
JSC	Byrns, Z. H.	COLORADO STATE UNIV	NAS 9-14765	Marlatt, W. E.	31	1733
JSC	Hoffman, R. A.	COLORADO STATE UNIV	NGR 06-002-128	Lett, J. T.	51	1744
JSC	Harris, J. W.	COLORADO STATE UNIV	NSG 9037	Patton, C. E.	13	1757
JSC	Eichelman, W. F.	COLUMBIA UNIVERSITY	NAS 9-6037	Langseth, M. G.	19	2873
JSC	Rambaut, P. C.	COLUMBIA UNIVERSITY	NAS 9-14931	Bassett, C. A.	53	2874
JSC	Harris, J. W.	COLUMBIA UNIVERSITY	NGR 33-008-177	Horai, K.	13	2878
JSC	Harris, J. W.	COLUMBIA UNIVERSITY	NGR 33-008-199	Ridley, W. I.	12	2883
JSC	Harris, J. W.	COLUMBIA UNIVERSITY	NSG 9025	Schreiber, E.	32	2898
JSC	Harris, J. W.	CORNELL UNIVERSITY	NGR 33-010-137	Gold, T.	13	2915
JSC	Harris, J. W.	FAIRLEIGH-DICKNSON U	NGL 31-006-011	Adams, J. B.	13	2746
JSC	Harris, J. W.	GEORGIA INST OF TECH	NSG 9040	Hart, R. K.	43	1999
JSC	Bogard, D. D.	GRAMBLING STATE UNIV	NGR 19-011-012	Sabu, D. D.	43	2239
JSC	Rummel, J. A.	HARDING COLLEGE	NAS 9-14921	Olree, H. D.	53	1173
JSC	Harris, J. W.	HARVARD UNIVERSITY	NGL 22-007-247	Hays, J. F.	12	2395
JSC	Kondo, Y.	HOUSTON BAPTIST UNIV	NGR 44-081-001	Modisette, J. L.	11	3374
JSC	Kondo, Y.	HOUSTON BAPTIST UNIV	NGR 44-081-005	Modisette, J. L.	11	3375
JSC	Potter, A. E.	HOUSTON BAPTIST UNIV	NSG 9038	Morgan, T. H.	11	3376
JSC	Savely, R. T.	HOWARD UNIVERSITY	NSG 9010	Choudhury, A. K.	45	1893
JSC	Harris, J. W.	INDIANA U-BLOOMINGTN	NGR 15-003-105	Meinschein, W. G.	12	2110
JSC	Barnett, T. L.	KANSAS STATE UNIV	NAS 9-14533	Feyerherm, A. M.	39	2180
JSC	Barnett, T. L.	KANSAS STATE UNIV	NAS 9-14899	Kanemasu, E. T.	31	2181
JSC	Harris, J. W.	LEHIGH UNIVERSITY	NGR 39-007-056	Goldstein, J. I.	12	3219
JSC	Kondo, Y.	LEHIGH UNIVERSITY	NGR 39-007-061	McCluskey, G. E., Jr.	11	3220
JSC	Harris, J. W.	LEHIGH UNIVERSITY	NGR 39-007-064	Sclar, C. B.	13	3221
JSC	Giuli, R. T.	LA STATE U-SHREVEPT	NAS 9-9317	Moss, T. A.	11	2249
JSC	Eichelman, W. F.	MASS INST OF TECH	NAS 9-12334	Toksoz, M. N.	31	2440
JSC	Heidelbaugh, N. D.	MASS INST OF TECH	NAS 9-12485	Flink, J. M.	53	2441
JSC	Harris, J. W.	MASS INST OF TECH	NGR 22-009-540	Simmons, M. G.	13	2465
JSC	Harris, J. W.	MASS INST OF TECH	NGR 22-009-551	Burns, R. G.	12	2466
JSC	Harris, J. W.	MASS INST OF TECH	NGR 22-009-646	Uhlmann, D. R.	47	2469
JSC	Shack, P. E.	MEMPHIS ST UNIV	NAS 9-13878	Morris, C. F.	45	3321
JSC	Homick, J. L.	MIAMI UNIVERSITY	NAS 9-14538	Parker, D. E.	59	3108
JSC	Nitschke, H. A.	NEW MEX ST U-LAS CR	NAS 9-95469	Carver, K.	47	2805
JSC	Henize, K. G.	NORTHWESTERN UNIV	NAS 9-12280	Telford, J. W.	11	2038
JSC	Nachtwey, D. S.	OREGON STATE UNIV	NAS 9-14860	Van Dyke, H.	51	3181
JSC	Harris, J. W.	OREGON STATE UNIV	NGL 38-002-039	Schmitt, R. A.	13	3183
JSC	Potter, A. E.	PAN AMERICAN UNIV	NSG 9033	Lemaster, E. W.	39	3378
JSC	Potter, A. E.	PRAIRIE VIEW A&M U	NSG 9006	Sohel, M. S.	39	3380
JSC	Harris, J. W.	PRINCETON UNIVERSITY	NGL 31-001-283	Hollister, L. S.	11	2766
JSC	Joosten, R. E.	PURDUE UNIVERSITY	NAS 9-13380	Hoffer, R. M.	39	2119
JSC	Potter, A. E.	PURDUE UNIVERSITY	NAS 9-14016	Landgrebe, D. A.	39	2120
JSC	Grandfield, A. L.	PURDUE UNIVERSITY	NAS 9-14970	Landgrebe, D. A.	39	2121
JSC	Harris, J. W.	PURDUE UNIVERSITY	NGL 15-005-175	Taylor, L. A.	13	2124
JSC	Harris, J. W.	PURDUE UNIVERSITY	NGR 15-005-157	Meyer, H. O.	13	2128
JSC	Harris, J. W.	QUEENS COLLEGE	NSG 9022	Coch, N. K.	32	2970
JSC	Kissinger, L. D.	RICE UNIVERSITY	NAS 9-11827	Davis, S. H.	43	3387
JSC	Baker, K.	RICE UNIVERSITY	NAS 9-12776	Lynn, M. S.	21	3388
JSC	Zieglschmid, J. F.	RICE UNIVERSITY	NAS 9-12912	Ward, C. H.	51	3389
JSC	Harris, J. W.	RICE UNIVERSITY	NGL 44-006-127	Heymann, D.	32	3392
JSC	Hudson, R. D.	RICE UNIVERSITY	NGR 44-006-156	Stebbings, R. F.	13	3394
JSC	Horz, F.	ST MARY'S UNIVERSITY	NSG 9039	Hanss, R. E.	32	3400
JSC	Echelkamp, R. E.	SO UNIV-BATON ROUGE	NSG 9030	Grewal, G. S.	45	2258
JSC	Leach, C. S.	STANFORD UNIVERSITY	NAS 9-14716	Davidson, J. M.	59	1348
JSC	Rummel, J. A.	STANFORD UNIVERSITY	NGR 05-020-632	Lederberg, J.	53	1406
JSC	Rummel, J. A.	STATE UNIV NY-ALBANY	NSG 9028	Farhi, L. E.	51	2997
JSC	Harris, J. W.	STATE UNIV NY-BUFFAL	NGL 33-183-013	Cadenhead, D. A.	12	3000
JSC	Hardee, S. N.	ST U NY COL-GENESEO	NAS 9-12770	Young, R. A.	32	3029

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
JSC	Harris, J. W.	STATE U NY-STONY BRK	NGL 33-015-130	Bence, A. E.	13	3008
JSC	Harris, J. W.	STATE U NY-STONY BRK	NGL 33-015-174	Schaeffer, O. A.	12	3009
JSC	Harris, J. W.	STATE U NY-STONY BRK	NSG 9013	Hartwig, J. B.	32	3025
JSC	Harris, J. W.	STATE U NY-STONY BRK	NSG 9044	Papike, J. J.	13	3026
JSC	Leach, C. S.	ST U NY-UPST MED CTR	NAS 9-11846	Miller, M.	59	3028
JSC	Nachtwey, D. S.	TEMPLE UNIVERSITY	NAS 9-14979	Urback, F.	51	3262
JSC	Smith, M. C., Jr.	TEXAS A&M UNIVERSITY	NAS 9-12434	Burns, E. E.	59	3417
JSC	Broune, I. D.	TEXAS A&M UNIVERSITY	NAS 9-13894	Hartley, H. O.	21	3418
JSC	Buras, N. T.	TEXAS A&M UNIVERSITY	NAS 9-13904	Rouse, J. W., Jr.	39	3419
JSC	Potter, A. E.	TEXAS A&M UNIVERSITY	NAS 9-14197	Rouse, J. L.	39	3420
JSC	Barnett, T. L.	TEXAS A&M UNIVERSITY	NAS 9-14470	Harlan, C.	39	3421
JSC	Hillje, E. R.	TEXAS A&M UNIVERSITY	NAS 9-14478	Cavin, R. K., III	41	3422
JSC	Nitschke, H. A.	TEXAS A&M UNIVERSITY	NAS 9-14493	Schell, J. A.	49	3423
JSC	Nolin, F. D.	TEXAS A&M UNIVERSITY	NAS 9-14556	Guseman, L. F., Jr.	21	3424
JSC	Browne, I. D.	TEXAS A&M UNIVERSITY	NAS 9-14689	Guseman, L. F., Jr.	21	3425
JSC	Hatcher, N. W.	TEXAS A&M UNIVERSITY	NAS 9-14817	Newton, R. W.	13	3426
JSC	Nitschke, H. A.	TEXAS A&M UNIVERSITY	NAS 9-14821	Schell, J. A.	49	3427
JSC	Blanchard, D.	TEXAS A&M UNIVERSITY	NAS 9-14828	Randall, J. D.	39	3428
JSC	Buras, N. T.	TEXAS A&M UNIVERSITY	NAS 9-14875	Schell, J. A.	32	3429
JSC	Mason, C. C.	TEXAS A&M UNIVERSITY	NAS 9-14898	Blanchard, B. J.	39	3430
JSC	Hay, D. H.	TEXAS A&M UNIVERSITY	NAS 9-14904	Guseman, L. F., Jr.	21	3431
JSC	Day, J. L.	TEXAS TECH UNIV	NAS 9-11162	Portnoy, W. M.	45	3441
JSC	Day, J. L.	TEXAS TECH UNIV	NAS 9-14438	Portnoy, W. M.	53	3442
JSC	Jackson, M. M.	TUFTS UNIVERSITY	NGR 22-012-026	Spodick, D. H.	53	2531
JSC	French, B. O.	TUSKEGEE INSTITUTE	NAS 9-13844	Sellers, J. P.	46	1035
JSC	Barnes, C. M.	UNIV HOUSTON-CL LAKE	NAS 9-14874	Schuhmann, R. E.	59	3475
JSC	Harris, J. W.	UNIV HOUSTON-CL LAKE	NSG 9043	Blanford, G. E.	13	3476
JSC	Baldwin, R. R.	UNIV ALASKA-FAIRBNKS	NAS 9-13945	Wescott, E. M.	32	1088
JSC	Kimsey, S. L.	UNIV OF ARIZONA	NAS 9-14692	Bartels, P. H.	59	1113
JSC	Harris, J. W.	UNIV OF ARIZONA	NGR 03-002-388	Drake, M. J.	12	1148
JSC	Potter, A. E.	UNIV ARKANSAS-FAYETV	NAS 9-14251	Waite, W. P.	19	1177
JSC	Hardee, S. N.	U ARKANSAS-MONTICELO	NAS 9-13196	Dehon, R. A.	13	1182
JSC	Forbes, C. D.	UNIV CALIF-BERKELEY	NAS 9-14419	Colwell, R. N.	39	1450
JSC	Patteson, A. W.	UNIV CALIF-BERKELEY	NAS 9-14452	Lauer, D.	39	1451
JSC	Garcia, J. G.	UNIV CALIF-BERKELEY	NAS 9-14565	Colwell, R. N.	39	1452
JSC	Harris, J. W.	UNIV CALIF-BERKELEY	NGL 05-003-409	Reynolds, J. H.	13	1472
JSC	Harris, J. W.	UNIV CALIF-BERKELEY	NGL 05-003-410	Price, P. B.	12	1473
JSC	Harris, J. W.	UNIV CALIF-BERKELEY	NGR 05-003-435	Burlingame, A. L.	13	1478
JSC	Smith, M. C., Jr.	UNIV CALIF-DAVIS	NAS 9-13589	Vogel, J. M.	52	1514
JSC	Huffstetler, W. J.	UNIV CALIF-DAVIS	NAS 9-14696	Owens, E. W.	45	1515
JSC	Harris, J. W.	UNIV CALIF-L ANGELES	NGL 05-007-330	Warren, N.	13	1559
JSC	Harris, J. W.	UNIV CALIF-L ANGELES	NGL 05-007-367	Wasson, J. T.	12	1560
JSC	Harris, J. W.	UNIV CALIF-L ANGELES	NGR 05-007-289	Kaplan, I. R.	13	1564
JSC	Harris, J. W.	UNIV CALIF-SAN DIEGO	NGL 05-009-148	Arnold, J. R.	12	1613
JSC	Harris, J. W.	UNIV CALIF-SAN DIEGO	NGL 05-009-150	Marti, K.	12	1614
JSC	Nitschke, H. A.	UNIV CALIF-S BARBARA	NAS 9-14816	Simonett, D. S.	33	1654
JSC	Harris, J. W.	UNIV CALIF-S BARBARA	NGR 05-010-081	Tilton, G. R.	32	1658
JSC	Harris, J. W.	UNIV CALIF-S BARBARA	NSG 9020	Fuller, M. D.	19	1661
JSC	Harris, J. W.	UNIV CALIF-S CRUZ	NSG 9034	Papike, J. J.	39	1663
JSC	Harris, J. W.	UNIV OF CHICAGO	NGL 14-001-167	Anders, E.	13	2059
JSC	Harris, J. W.	UNIV OF CHICAGO	NGL 14-001-169	Clayton, R. N.	12	2060
JSC	Harris, J. W.	UNIV OF CHICAGO	NGL 14-001-171	Smith, J. V.	13	2061
JSC	Harris, J. W.	UNIV COLORADO-BOLDR	NGR 06-0[illegible]3-181	Larson, E. E.	13	1781
JSC	Harris, J. W.	UNIV COLORADO-BOLDR	NSG 9036	Spetzler, H. A.	32	1802
JSC	Smith, M. C., Jr.	UNIV HOUSTON-HOUSTON	NAS 9-11676	Cox, J. E.	59	3446
JSC	Satterfield, J. M.	UNIV HOUSTON-HOUSTON	NAS 9-11845	Hayre, H. S.	49	3447
JSC	Baker, K.	UNIV HOUSTON-HOUSTON	NAS 9-12777	Decell, H. P., Jr.	21	3448
JSC	Hoffman, R. A.	UNIV HOUSTON-HOUSTON	NAS 9-13262	Hanson, W. B.	51	3449

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
JSC	Golden, R. L.	UNIV HOUSTON-HOUSTON	NAS 9-14209	Sheldon, W. R.	11	3450
JSC	Eggleston, J. M.	UNIV HOUSTON-HOUSTON	NAS 9-14347	Michalopoulos, C. D.	42	3451
JSC	Loper, L. R.	UNIV HOUSTON-HOUSTON	NAS 9-14384	Pitts, D. G.	59	3452
JSC	Schneider, H. J.	UNIV HOUSTON-HOUSTON	NAS 9-14534	Zlatkis, A.	53	3453
JSC	Schneider, H. J.	UNIV HOUSTON-HOUSTON	NAS 9-14629	Zlatkis, A.	52	3454
JSC	Bailey, J. V.	UNIV HOUSTON-HOUSTON	NAS 9-14652	Pinsky, L. S.	13	3455
JSC	Graves, R. C.	UNIV HOUSTON-HOUSTON	NAS 9-14857	Henney, H. R., Jr.	51	3456
JSC	Heyborn, R. P.	UNIV HOUSTON-HOUSTON	NAS 9-15000	Decell, H. P., Jr.	21	3457
JSC	Bailey, J. V.	UNIV HOUSTON-HOUSTON	NGL 44-005-041	Goodman, C.	13	3463
JSC	Eandi, B. K.	UNIV HOUSTON-HOUSTON	NGL 44-005-090	Huang, C. J.	49	3464
JSC	Kondo, Y.	UNIV HOUSTON-HOUSTON	NGR 44-005-137	Hildebrandt, A. F.	13	3469
JSC	Hoffman, R. A.	UNIV HOUSTON-HOUSTON	NSG 9042	Coules, J. R.	51	3474
JSC	Amsbury, D. L.	UNIV OF IOWA	NAS 9-13313	Hoppin, R. A.	32	2177
JSC	Hatcher, N. M.	UNIV OF KANSAS	NAS 9-10261	Ulaby, F. T.	39	2191
JSC	Buras, N. T.	UNIV OF KANSAS	NAS 9-14052	Ulaby, F. T.	39	2192
JSC	Patteson, A. W.	UNIV OF KANSAS	NAS 9-14453	Haralick, R. M.	39	2193
JSC	Jackson, M. M.	UNIV OF KENTUCKY	NAS 9-14392	Lafferty, J. F.	46	2226
JSC	Harris, J. W.	UNIV OF KENTUCKY	NGR 18-001-058	Ehmann, W. D.	13	2228
JSC	Hoffman, R. A.	UNIV OF LOUISVILLE	NAS 9-14632	Keefe, J. R.	51	2234
JSC	Eicheiman, W. F.	UNIV MARYLAND-COL PK	NAS 9-5886	Weber, J.	19	2308
JSC	Harris, J. W.	UNIV OF MASS-AMHERST	NGL 22-010-089	Haggerty, S. E.	13	2539
JSC	Leach, C. S.	UNIV OF MIAMI	NGR 10-007-097	Epstein, M.	52	1943
JSC	Stanley, J. F.	UNIV MICH-ANN ARBOR	NSG 9031	Anderson, J. G.	31	2605
JSC	Smith, M. C., Jr.	U MINN-MNPLS-ST PAUL	NAS 9-12560	Labuza, T. P.	59	2626
JSC	Harris, J. W.	U MINN-MNPLS-ST PAUL	NGL 24-005-225	Alexander, E. C., Jr.	13	2630
JSC	Harris, J. W.	U MINN-MNPLS-ST PAUL	NGR 24-005-223	Murthy, V. R.	13	2634
JSC	Harris, J. W.	U MINN-MNPLS-ST PAUL	NGR 24-005-248	Banerjee, S. K.	32	2635
JSC	Dawson, C. T.	UNIV MO-ROLLA	NAS 9-14848	Tranter, W. H.	45	2697
JSC	Harris, J. W.	UNIV OF NEW MEXICO	NGL 32-004-063	Keil, K.	12	2831
JSC	Leach, C. S.	UNIV N CAR-CHPL HILL	NAS 9-14697	Gitelman, H. J.	59	3075
JSC	Teegarden, D. L., Jr.	UNIV OREGON-EUGENE	NAS 9-9690	Blank, H. R.	32	3186
JSC	Harris, J. W.	UNIV OREGON-EUGENE	NGL 38-003-022	Weill, D. F.	13	3188
JSC	Horrigan, D. J.	UNIV OF PENNSYLVANIA	NSG 9011	Lambertson, C. J.	51	3270
JSC	Eichelman, W. F.	UNIV OF PITTSBURGH	NAS 9-13803	Donahue, T. M.	13	3273
JSC	Harris, J. W.	UNIV OF PITTSBURGH	NGL 39-011-160	Fuller, M.	13	3281
JSC	Bailey, J. V.	UNIV SAN FRANCISCO	NAS 9-12466	Benton, E. V.	51	1666
JSC	Taylor, G. R.	UNIV SAN FRANCISCO	NAS 9-14396	Benton, E. V.	51	1667
JSC	Unavailable	UNIV OF SOUTHERN CAL	NAS 9-6164	Unavailable	13	1708
JSC	Harris, J. W.	UNIV TENNESSEE-KNOXV	NGL 43-001-140	Taylor, L. A.	11	3339
JSC	Kapian, H. L.	U TENNESSEE-MEMPHIS	NAS 9-14918	Austian, J.	12	3351
JSC	Potter, A. E.	UNIV TEXAS-AUSTIN	NAS 9-12568	Barnes, T. G., III	11	3485
JSC	Goodrich, W. D.	UNIV TEXAS-AUSTIN	NAS 9-13680	Bertin, J. J.	41	3486
JSC	Eichelman, W. F.	UNIV TEXAS-AUSTIN	NAS 9-14405	Duennebier, F. D.	32	3487
JSC	Richard, R. R.	UNIV TEXAS-AUSTIN	NAS 9-14491	Hartwig, W. H.	49	3488
JSC	Eichelman, W. F.	UNIV TEXAS-AUSTIN	NAS 9-14810	Latham, G. V.	13	3489
JSC	Fenner, R. G.	UNIV TEXAS-AUSTIN	NAS 9-14892	Beckner, F.	45	3490
JSC	Eandi, B. K.	UNIV TEXAS-AUSTIN	NGL 44-012-133	McKetta, J. J.	49	3494
JSC	Harris, J. W.	UNIV TEXAS-AUSTIN	NSG 9021	Gose, W. A.	32	3520
JSC	Eicheiman, W. F.	UNIV TEXAS-DALLAS	NAS 9-12074	Hoffman, J. H.	19	3526
JSC	Baker, K.	UNIV TEXAS-DALLAS	NAS 9-13512	Odell, P. L.	21	3527
JSC	Kimzey, S. L.	UNIV TEXAS-GALVESTON	NAS 9-13102	Lockhart, L. H.	53	3544
JSC	Reschke, M. F.	UNIV TEXAS-GALVESTON	NAS 9-14641	Correia, M. J.	69	3545
JSC	Hoffler, G. W.	U TEX HEALTH CTR-SA	NGR 44-094-003	Earley, L. E.	53	3548
JSC	Hoffler, G. W.	U TEX HEALTH CTR-DAL	NSG 9026	Blomquist, C. G.	52	3547
JSC	Kaplan, H. L.	UNIV OF UTAH	NAS 9-14809	Baldwin, R. C.	59	3562
JSC	Harris, J. W.	UNIV OF UTAH	NSG 9024	Nash, W. P.	32	3572
JSC	Rambaut, P. C.	UNIV OF WASHINGTON	NAS 9-13029	Nelp, W. B.	59	3739
JSC	Horz, F.	UNIV OF WASHINGTON	NAS 9-13743	Brownlee, D. E.	32	3740

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
JSC	Harris, J. W.	UNIV OF WASHINGTON	NGR 48-002-149	Ghose, S.	13	3754
JSC	Harris, J. W.	UNIV OF WASHINGTON	NSG 9032	Adams, J. D.	32	3763
JSC	Nachtwey, D. S.	UTAH STATE UNIV	NAS 9-14871	Caldwell, M. M.	51	3574
JSC	Day, J. L.	VIRGINIA POLY INST	NAS 9-14862	Rivers, D. B.	49	3696
JSC	Harris, J. W.	WASHINGTON UNIVERSTY	NGL 26-008-065	Walker, R. M.	13	2711
JSC	Hoffman, R. A.	WASHINGTON UNIVERSTY	NSG 9035	Pickard, B. G.	51	2718
KSC	Hammond, T. M.	BETHUNE-COOKMAN COL	NGR 10-022-001	Poonai, P.	39	1897
KSC	Schehl, T. A.	FLORIDA A&M UNIV	NGR 10-010-002	Cottrell, P. T.	39	1898
KSC	Malone, J. E.	FLORIDA A&M UNIV	NSG 805	Harrell, B. E.	59	1899
KSC	Franks, H. H.	FLORIDA INST OF TECH	NAS10-8399	Bowman, T. F.	43	1903
KSC	Lee, W. H.	FLORIDA INST OF TECH	NGR 10-015-008	Weber, H. P.	39	1904
KSC	Burton, R.	FLORIDA TECH UNIV	NAS10-8934	Osborne, J.	39	1911
KSC	Buchanan, P.	FLORIDA TECH UNIV	NAS10-8986	Vickers, D. H.	39	1912
KSC	Lee, W. H.	FLORIDA TECH UNIV	NGR 10-019-004	Sweet, H. C.	39	1913
KSC	Lee, W. H.	FLORIDA TECH UNIV	NGR 10-019-009	St John, R.	39	1914
KSC	Wright, M. I.	GEORGIA INST OF TECH	NAS10-8375	Webb, R. P.	45	1979
KSC	Morrison, J. D.	KENTUCKY STATE UNIV	NSG 801	Kloek, G.	59	2222
KSC	Bryan, C. J.	NM HIGHLANDS UNIV	NSG 804	Clark, R. D.	12	2795
KSC	Schlimmer, G. E.	NEW MEX ST U-LAS CR	NAS10-7399	Bumgarner, R. A.	45	2807
KSC	Schlimmer, G. E.	NEW MEX ST U-LAS CR	NAS10-8712	Unavailable	19	2808
KSC	Perkins, E. E.	SAVANNAH STATE COL	NSG 803	Ghuman, G. S.	39	2011
KSC	Bostwick, L. G.	SOUTHEASTN OKLA ST U	NSG 802	Robinson, J. L.	51	3172
KSC	Toft, P. D.	UNIV OF ARIZONA	NAS10-8518	Krider, E. P.	31	1114
KSC	Toft, P. D.	UNIV OF FLORIDA	NAS10-8774	Bartholic, J. F.	39	1918
KSC	Toft, P. D.	UNIV OF FLORIDA	NAS10-8920	Bartholic, J. F.	39	1919
KSC	Toft, P. D.	UNIV OF FLORIDA	NGR 10-005-169	Uman, M. A.	31	1926
KSC	Bland, R. A.	UNIV OF MIAMI	NAS10-8600	Hirschberg, J. G.	39	1937
KSC	Bland, R. A.	UNIV OF MIAMI	NAS10-8740	Veziroglu, T. N.	39	1938
KSC	Bland, R. A.	UNIV OF MIAMI	NAS10-8795	Hirschberg, J. G.	39	1939
KSC	Bland, R. A.	UNIV OF MIAMI	NAS10-8926	Lee, S. S.	39	1940
KSC	Bland, R. A.	UNIV OF MIAMI	NAS10-8954	Hirschberg, J. G.	39	1941
KSC	Jorolan, A. E.	UNIV SO CAROLINA-COL	NAS10-8354	Bonnell, R. D.	43	3310
LARC	Johnson, R. W.	AMERICAN UNIVERSITY	NAS 1-12209	Anderson, R. R.	39	1834
LARC	Cofer, W. R., III	BENNETT COLLEGE-NC	NSG 1032	Greaux, A. E.	12	3045
LARC	Yates, E. C., Jr.	BOSTON UNIVERSITY	NGR 22-004-030	Morino, L.	41	2375
LARC	Wilson, J. W.	BROOKLYN COLLEGE	NSG 1166	Franco, V.	13	2846
LARC	Williams, T. S., Jr.	BROWN UNIVERSITY	NAS 1-9680	Mutch, T. A.	99	3293
LARC	Walker, G. H.	BROWN UNIVERSITY	NGR 40-002-093	Loferski, J. J.	13	3296
LARC	Maestrello, L.	BROWN UNIVERSITY	NSG 1076	Liu, J. T.	39	3299
LARC	Kelly, W. L., IV	BROWN UNIVERSITY	NSG 1222	Patterson, W. R., III	45	3300
LARC	Williams, T. S., Jr.	CALIF INST OF TECH	NAS 1-9703	Anderson, D. L.	39	1186
LARC	Williams, T. S., Jr.	CALIF INST OF TECH	NAS 1-12311	Horowitz, N. H.	51	1187
LARC	Davis, R. C.	CALIF INST OF TECH	NSG 1005	Babcock, C. D., Jr.	41	1232
LARC	Young, W. H., Jr.	CAL STATE U-LG BEACH	NAS 1-14276	Cebeci, T.	41	1263
LARC	Walker, G. H.	CARNEGIE-MELLON UNIV	NGR 39-087-021	Feucht, D. L.	13	3199
LARC	Exton, R. J.	CHESAPEAKE COLLEGE	NSG 1096	Paul, F. W.	33	2273
LARC	Morris, G. J.	CHRISTPHR NEWPRT COL	NAS 1-13423	Roby, A. B.	41	3580
LARC	Jewel, J. W., Jr.	CHRISTPHR NEWPRT COL	NAS 1-13913	Unavailable	41	3581
LARC	Morris, G. J.	CHRISTPHR NEWPRT COL	NAS 1-14034	Roby, A. B.	41	3582
LARC	Montgomery, R. C.	CITY COLLEGE OF N Y	NSG 1169	Mekel, R.	41	2854
LARC	Turner, R. E.	CITY COLLEGE OF N Y	NSG 1305	Chen, C. M.	31	2855
LARC	Abel, I.	CLEMSON UNIV-CLEMSON	NSG 1125	Rudisill, C. S.	41	3306
LARC	Poe, C. C., Jr.	CLEMSON UNIV-CLEMSON	NSG 1297	Goree, J. G.	46	3307
LARC	Martin, D. J.	COLLEGE OF WM & MARY	NAS 1-11958	Aceto, H., Jr.	99	3583
LARC	Anderson, A. F.	COLLEGE OF WM & MARY	NGL 47-006-058	Rublein, G. T.	99	3584
LARC	Breckenridge, R. A.	COLLEGE OF WM & MARY	NSG 1089	Moriarity, J. A.	13	3586
LARC	Young, P. R.	COLLEGE OF WM & MARY	NSG 1095	Kranbuehl, D. E.	12	3587
LARC	Russell, J. M., III	COLLEGE OF WM & MARY	NSG 1203	Park, J. H.	31	3588

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LARC	Cofer, W. R., III	COLLEGE OF WM & MARY	NSG 1204	Tyree, S. Y., Jr.	12	3589
LARC	Sweet, G. E.	COLORADO STATE UNIV	NAS 1-12106	Vonder Haar, T. H.	31	1721
LARC	Costen, R. C.	COLORADO STATE UNIV	NSG 1215	Sinclair, P. C.	31	1748
LARC	Mixson, J. S.	COLUMBIA UNIVERSITY	NSG 1059	Vaicaitis, R.	41	2885
LARC	Cawthorn, J. M.	COLUMBIA UNIVERSITY	NSG 1115	Galanter, E.	69	2886
LARC	Powell, C. A.	COLUMBIA UNIVERSITY	NSG 1164	Borsky, P. N.	49	2887
LARC	Williams, T. S., Jr.	CORNELL UNIVERSITY	NAS 1-9683	Sagan, C. E.	99	2899
LARC	Allario, F.	CORNELL UNIVERSITY	NGL 33-010-064	Cool, T. A.	13	2908
LARC	Jobson, D. J.	CORNELL UNIVERSITY	NSG 1263	Harwit, M. O.	13	2926
LARC	Sweet, G. E.	DREXEL UNIVERSITY	NAS 1-11871	House, F. B.	31	3203
LARC	Russell, J. M., III	DREXEL UNIVERSITY	NAS 1-14393	House, F. B.	31	3204
LARC	Rogowski, R. S.	DREXEL UNIVERSITY	NSG 1240	Bandy, A. R.	39	3207
LARC	Snyder, W. J.	DUKE UNIVERSITY	NSG 1121	Dajani, J. S.	44	3049
LARC	Migneault, G. E.	DUKE UNIVERSITY	NSG 1267	Gerhart, S. L.	21	3050
LARC	Conway, E. J.	ELIZABETH CITY ST U	NSG 1179	Chatterjee, K. K.	12	3052
LARC	Williams, T. S., Jr.	FLORIDA STATE UNIV	NAS 1-9693	Hess, S. K.	22	1906
LARC	Hardin, J. C.	FLORIDA STATE UNIV	NSG 1021	Tam, C. K.	13	1910
LARC	McComb, H. G., Jr.	GEORGE WASHINGTON U	NAS 1-14313	Toridis, T. G.	49	1855
LARC	Anderson, A. F.	GEORGE WASHINGTON U	NGL 09-010-053	Liebowitz, H.	49	1858
LARC	Margolis, K.	GEORGE WASHINGTON U	NGR 09-010-064	Liebowitz, H.	41	1859
LARC	Mulac, R. W.	GEORGE WASHINGTON U	NGR 09-010-074	Liebowitz, H.	41	1860
LARC	Anderson, R. A.	GEORGE WASHINGTON U	NGR 09-010-078	Liebowitz, H.	41	1861
LARC	Margolis, K.	GEORGE WASHINGTON U	NGR 09-010-085	Liebowitz, H.	41	1862
LARC	Swift, C. T.	GEORGE WASHINGTON U	NGR 09-010-096	Liebowitz, H.	45	1863
LARC	Callis, L. B., Jr.	GEORGE WASHINGTON U	NSG 1026	Liebowitz, H.	31	1864
LARC	Bailey, M. C.	GEORGE WASHINGTON U	NSG 1110	Liebowitz, H.	45	1865
LARC	Swann, R. T.	GEORGE WASHINGTON U	NSG 1155	Liebowitz, H.	47	1866
LARC	Suit, W. T.	GEORGE WASHINGTON U	NSG 1161	Liebowitz, H.	41	1867
LARC	Straeter, T. A.	GEORGE WASHINGTON U	NSG 1170	Maurer, W. D.	99	1868
LARC	Callis, L. B., Jr.	GEORGE WASHINGTON U	NSG 1216	Liebowitz, H.	31	1869
LARC	Poe, C. C., Jr.	GEORGE WASHINGTON U	NSG 1228	Liebowitz, H.	47	1870
LARC	McKinney, L. W.	GEORGE WASHINGTON U	NSG 1246	Liebowitz, H.	41	1871
LARC	Costen, R. C.	GEORGE WASHINGTON U	NSG 1251	Liebowitz, H.	31	1872
LARC	Elber, W.	GEORGE WASHINGTON U	NSG 1289	Liebowitz, H.	47	1873
LARC	Williams, T. S., Jr.	GEORGIA INST OF TECH	NAS 1-13422	Hubbard, J. S.	51	1959
LARC	Lawrence, G. F.	GEORGIA INST OF TECH	NAS 1-14351	Zimmer, R. P.	31	1960
LARC	Peterson, J. P.	GEORGIA INST OF TECH	NGL 11-002-096	Horton, W. H.	41	1981
LARC	Leybold, H. A.	GEORGIA INST OF TECH	NGR 11-002-169	Hanagud, S. V.	21	1983
LARC	Eggers, J. M.	GEORGIA INST OF TECH	NGR 11-002-177	Bangert, L. H.	41	1984
LARC	Posey, J. W.	GEORGIA INST OF TECH	NSG 1047	Hadden, W. J., Jr.	13	1986
LARC	Weston, R. P.	GEORGIA INST OF TECH	NSG 1257	McMahon, H. M.	41	1987
LARC	Hohl, F.	GEORGIA INST OF TECH	NSG 1288	Clement, J. D.	19	1988
LARC	Preisser, J. S.	GEORGIA INST OF TECH	NSG 1307	Pierce, A. D.	13	1989
LARC	Jewel, J. W., Jr.	HAMPTON INSTITUTE	NAS 1-12445	Williams, G. K.	41	3592
LARC	Jewel, J. W., Jr.	HAMPTON INSTITUTE	NAS 1-14507	Williams, G. K.	41	3593
LARC	Anderson, A. F.	HAMPTON INSTITUTE	NCA 1-1	Darden, G. C.	49	3594
LARC	Singh, J. J.	HAMPTON INSTITUTE	NGR 47-020-008	Han, K. S.	13	3596
LARC	Catherines, J. J.	HAMPTON INSTITUTE	NSG 1011	Duncan, N. C.	69	3597
LARC	Jachimowski, C. J.	HAMPTON INSTITUTE	NSG 1086	Hunter, C. E.	12	3598
LARC	Katzberg, S. J.	HAMPTON INSTITUTE	NSG 1146	Trehan, A. K.	45	3599
LARC	Katzberg, S. J.	HAMPTON INSTITUTE	NSG 1294	Trehan, A. K.	45	3600
LARC	Williams, T. S., Jr.	HARVARD UNIVERSITY	NAS 1-10492	McElroy, M. B.	31	2379
LARC	Swift, C. T.	HOFSTRA UNIVERSITY	NGR 33-209-002	Weissman, D. E.	45	2940
LARC	Kruszewski, E. T.	HOWARD UNIVERSITY	NSG 1130	Broome, T. H.	44	1886
LARC	Martz, C. W.	HOWARD UNIVERSITY	NSG 1181	Bainum, P. M.	41	1887
LARC	Beckwith, I. E.	ILL INST OF TECH	NSG 1120	Nagib, H. M.	41	2035
LARC	Starnes, J. H., Jr.	ILL INST OF TECH	NSG 1266	Haftka, R. T.	41	2036
LARC	Dixon, S. C.	ISRAEL INST OF TECH	NGR 52-012-008	Haftka, R. T.	41	3820

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LARC	Abel, I.	ISRAEL INST OF TECH	NSG 7072	Nissim, E.	41	3821
LARC	Bush, H. G.	ISRAEL INST OF TECH	NSG 7083	Weller, T.	41	3822
LARC	Bavuso, S. J.	JOHNS HOPKINS UNIV	NSG 1265	Masson, G. M.	45	2285
LARC	Ilg, W.	LEHIGH UNIVERSITY	NGR 39-007-011	Erdogan, F.	21	3217
LARC	Poe,, C. C., Jr.	LEHIGH UNIVERSITY	NSG 1178	Arin, K.	47	3222
LARC	Hinton, D. E.	MARQUETTE UNIVERSITY	NSG 1025	Nigro, N. J.	21	3770
LARC	Campbell, J. W.	MARY BALDWIN COLLEGE	NSG 1209	Sawyer, J. O.	21	3601
LARC	Williams, T. S., Jr.	MASS INST OF TECH	NAS 1-9684	Biemann, K.	39	2414
LARC	Williams, T. S., Jr.	MASS INST OF TECH	NAS 1-9691	Rich, A.	51	2415
LARC	Williams, T. S., Jr.	MASS INST OF TECH	NAS 1-9702	Shapiro, I. I.	99	2416
LARC	Reid, H. J., Jr.	MASS INST OF TECH	NGL 22-009-640	Simpson, R. W.	41	2456
LARC	Queijo, M. J.	MASS INST OF TECH	NGR 22-009-701	Young, L. R.	41	2471
LARC	Rhodes, M. D.	MASS INST OF TECH	NGR 22-009-781	Mar, J. W.	41	2481
LARC	Hoad, D. R.	MASS INST OF TECH	NGR 22-009-818	Widnall, S. E.	41	2487
LARC	Gera, J.	MASS INST OF TECH	NSG 1018	Athans, M.	41	2490
LARC	Hess, R. V.	MASS INST OF TECH	NSG 1048	Wrighton, M. S.	12	2491
LARC	Montgomery, R. C.	MASS INST OF TECH	NSG 1112	Willsky, A. S.	41	2492
LARC	Byvik, C. E.	MASS INST OF TECH	NSG 1190	Gatos, H. C.	47	2493
LARC	Fichter, W. B.	MASS INST OF TECH	NSG 1217	Williams, J. H., Jr.	49	2494
LARC	Bland, S. R.	MASS INST OF TECH	NSG 1219	Harris, W. L.	41	2495
LARC	Boyden, R. P.	MASS INST OF TECH	NSG 1292	Covert, E. E.	41	2496
LARC	O'Neal, R. L.	MASS INST OF TECH	NSG 1299	McCarthy, J. F., Jr.	99	2497
LARC	Unavailable	MICHIGAN STATE UNIV	NAS 1-6860	Unavailable	13	2543
LARC	Hardin, J. C.	MICHIGAN STATE UNIV	NGR 23-004-091	Foss, J. F.	41	2545
LARC	Hefner, J. N.	MICHIGAN STATE UNIV	NSG 1138	Foss, J. F.	41	2546
LARC	Elber, W.	MICHIGAN STATE UNIV	NSG 1148	Sharp, W. N., Jr.	47	2547
LARC	Bobbitt, P. J.	MISSISSIPPI STATE U	NGR 25-001-055	Thompson, J. F.	41	2671
LARC	Hall, A. W.	MISSISSIPPI STATE U	NSG 1083	Cross, E. J., Jr.	41	2672
LARC	Hall, A. W.	MISSISSIPPI STATE U	NSG 1231	Cross, E. J., Jr.	41	2673
LARC	Weilmuenster, K. J.	MISSISSIPPI STATE U	NSG 1242	Thompson, J. F.	21	2674
LARC	Harris, R. L.	MISSISSIPPI STATE U	NSG 1249	Bennett, A. G., Jr.	41	2675
LARC	Gera, J.	MISSISSIPPI STATE U	NSG 1284	Bennett, A. G.	41	2676
LARC	Harvey, G. A.	NEW MEX ST U-LAS CR	NAS 1-13586	Beebe, R. F.	11	2801
LARC	Fetterman, D. E.	NEW YORK UNIVERSITY	NGL 33-016-119	Ferri, A.	41	2943
LARC	Huber, P. W.	NEW YORK UNIVERSITY	NGR 33-016-131	Zakkay, V.	41	2944
LARC	South, J. C., Jr.	NEW YORK UNIVERSITY	NGR 33-016-167	Garabedian, P. R.	21	2945
LARC	Liu, C. H.	NEW YORK UNIVERSITY	NSG 1291	Ting, L.	41	2949
LARC	McLean, F. E.	NEW YORK UNIVERSITY	NSG 1298	Hoffert, M. I.	39	2950
LARC	Stallings, R. L.	NEW YORK UNIVERSITY	NSG 1303	Zakkay, V.	41	2951
LARC	Shoosmith, J. N.	NORFOLK STATE COL	NSG 1014	Boseman, M.	21	3602
LARC	Dempsey, T. K.	NORFOLK STATE COL	NSG 1074	Colegate, R. L.	59	3603
LARC	Allario, F.	NO CAR A&T STATE U	NSG 1147	Yu, C.	13	3054
LARC	Rhodes, M. D.	NO CAR A&T STATE U	NSG 1296	Sharma, A. V.	47	3055
LARC	Mayes, W. H.	NO CAROLINA STATE U	NGL 34-002-095	Levere, T. E.	69	3060
LARC	Hagginbothom, W. K., Jr.	NO CAROLINA STATE U	NGR 34-002-106	Manning, C. R., Jr.	47	3061
LARC	Croswell, W. F.	NO CAROLINA STATE U	NGR 34-002-188	Herman, B. M.	45	3062
LARC	Hohl, F.	NO CAROLINA STATE U	NSG 1058	Hassan, H. A.	13	3064
LARC	Crane, H. L.	NO CAROLINA STATE U	NSG 1077	Smetana, F. O.	41	3065
LARC	Hutchby, J. A.	NO CAROLINA STATE U	NSG 1116	Hauser, J. R.	45	3066
LARC	O'Neal, R. L.	NO CAROLINA STATE U	NSG 1133	Manning, C. R., Jr.	47	3067
LARC	O'Neal, R. L.	NO CAROLINA STATE U	NSG 1136	Bailey, J. A.	47	3068
LARC	Miller, W. E.	NO CAROLINA STATE U	NSG 1202	Littlejohn, M. A.	13	3069
LARC	Mayes, W. H.	NO CAROLINA STATE U	NSG 1205	Hart, F. D.	13	3070
LARC	Walberg, G. D.	NO CAROLINA STATE U	NSG 1287	Dejarnette, F. R.	41	3071
LARC	Barnwell, R. W.	OHIO STATE UNIV	NAS 1-14406	Gregorek, G. M.	41	3109
LARC	Gilreath, M. C.	OHIO STATE UNIV	NGL 36-008-138	Burnside, W. D.	45	3120
LARC	Hall, A. W.	OHIO STATE UNIV	NSG 1184	Gregorek, G. M.	41	3127
LARC	Dibattista, J. D.	OHIO STATE UNIV	NSG 1212	Nerem, R. M.	99	3128

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LARC	Reid, H. J., Jr.	OHIO UNIVERSITY	NAS 1-14124	McFarland, R. H.	45	3131
LARC	Reid, H. J., Jr.	OHIO UNIVERSITY	NGR 36-009-017	McFarland, R. H.	45	3133
LARC	Martin, D. J.	OLD DOMINION UNIV	NAS 1-9434	Ousterhout, D. S.	99	3604
LARC	Martin, D. J.	OLD DOMINION UNIV	NAS 1-11707	Ousterhout, D. S.	49	3605
LARC	Hillard, M. E., Jr.	OLD DOMINION UNIV	NAS 1-13820	Bandy, A. R.	13	3606
LARC	Whitlock, C. H.	OLD DOMINION UNIV	NAS 1-14193	Kuo, C. Y.	99	3607
LARC	Johnston, N. J.	OLD DOMINION UNIV	NGL 47-003-008	Williams, R. L.	12	3608
LARC	Leland, T. J.	OLD DOMINION UNIV	NGL 47-003-012	Cheng, R.	44	3609
LARC	Gentry, G. L., Jr.	OLD DOMINION UNIV	NGL 47-003-039	Ousterhout, D. S.	41	3610
LARC	Outlaw, R. A.	OLD DOMINION UNIV	NGR 47-003-043	Brock, F. J.	13	3612
LARC	Phillips, D. H.	OLD DOMINION UNIV	NGR 47-003-048	Ake, R. L.	13	3613
LARC	Anderson, A. F.	OLD DOMINION UNIV	NGR 47-003-052	Roberts, A. S., Jr.	41	3614
LARC	Crumbly, K. H.	OLD DOMINION UNIV	NGR 47-003-068	Harris, F. S., Jr.	31	3615
LARC	Wilson, J. W.	OLD DOMINION UNIV	NGR 47-003-078	Khandelwal, G. S.	13	3616
LARC	Melfi, L. T., Jr.	OLD DOMINION UNIV	NGR 47-003-082	Clay, F. P., Jr.	31	3617
LARC	Hohl, F.	OLD DOMINION UNIV	NSG 1022	Harries, W. L.	13	3620
LARC	Keating, G. M.	OLD DOMINION UNIV	NSG 1028	Goglia, G. L.	31	3621
LARC	Holmes, H. K.	OLD DOMINION UNIV	NSG 1039	Zuckerwar, A. J.	49	3622
LARC	Hohl, F.	OLD DOMINION UNIV	NSG 1040	Harries, W. L.	19	3623
LARC	Wilson, J. W.	OLD DOMINION UNIV	NSG 1055	Khandelwal, G. S.	19	3624
LARC	Remsberg, E. E.	OLD DOMINION UNIV	NSG 1060	Kindle, E. C.	31	3625
LARC	Tripp, J. S.	OLD DOMINION UNIV	NSG 1079	Tcheng, P. L.	45	3626
LARC	Hefner, J. N.	OLD DOMINION UNIV	NSG 1087	Goglia, G. L.	41	3627
LARC	Harris, J. E.	OLD DOMINION UNIV	NSG 1098	Cooke, C. H.	41	3628
LARC	Hefner, J. N.	OLD DOMINION UNIV	NSG 1100	Ash, R. L.	41	3629
LARC	Weidman, D. J.	OLD DOMINION UNIV	NSG 1117	Narayanaswami, R.	44	3630
LARC	Reichle, H. G., Jr.	OLD DOMINION UNIV	NSG 1127	Kindle, E. C.	31	3631
LARC	Russell, J. M., III	OLD DOMINION UNIV	NSG 1131	Kindle, E. C.	31	3632
LARC	McKinney, L. W.	OLD DOMINION UNIV	NSG 1135	Goglia, G. L.	41	3633
LARC	Kershner, D. D.	OLD DOMINION UNIV	NSG 1143	Barna, P. S.	41	3634
LARC	Gapcynski, J. P.	OLD DOMINION UNIV	NSG 1152	Breedlove, W. J., Jr.	19	3635
LARC	Reichle, H. G., Jr.	OLD DOMINION UNIV	NSG 1153	Tiwari, S. N.	31	3636
LARC	Davis, J. G., Jr.	OLD DOMINION UNIV	NSG 1167	Hyer, M. W.	41	3637
LARC	Hellbaum, R. F.	OLD DOMINION UNIV	NSG 1177	Goglia, G. L.	45	3638
LARC	Tynan, C. I., Jr.	OLD DOMINION UNIV	NSG 1186	Goglia, G. L.	99	3639
LARC	Allario, F.	OLD DOMINION UNIV	NSG 1197	Kindle, E. C.	31	3640
LARC	Keating, G. M.	OLD DOMINION UNIV	NSG 1207	Goglia, G. L.	19	3641
LARC	Dempsey, T. K.	OLD DOMINION UNIV	NSG 1225	Coates, G. D.	69	3642
LARC	Harris, J. E.	OLD DOMINION UNIV	NSG 1226	Goglia, G. L.	41	3643
LARC	Hefner, J. N.	OLD DOMINION UNIV	NSG 1236	Goglia, G. L.	46	3644
LARC	Adelman, H. M.	OLD DOMINION UNIV	NSG 1237	Thornton, E. A.	41	3645
LARC	Keckler, C. R.	OLD DOMINION UNIV	NSG 1241	Roberts, A. S., Jr.	49	3646
LARC	Fuller, W. H., Jr.	OLD DOMINION UNIV	NSG 1245	Harris, F. S., Jr.	39	3647
LARC	Dempsey, T. K.	OLD DOMINION UNIV	NSG 1247	Coates, G. D.	69	3648
LARC	McCormick, M. P.	OLD DOMINION UNIV	NSG 1252	Deepak, A.	31	3649
LARC	McCormick, M. P.	OLD DOMINION UNIV	NSG 1259	Chu, W. P.	31	3650
LARC	Adelman, H. M.	OLD DOMINION UNIV	NSG 1260	Golia, G. L.	41	3651
LARC	Melfi, L. T., Jr.	OLD DOMINION UNIV	NSG 1271	Brock, F. J.	13	3652
LARC	Kruszewski, E. T.	OLD DOMINION UNIV	NSG 1279	Hyer, M. W.	49	3653
LARC	Reichle, H. G., Jr.	OLD DOMINION UNIV	NSG 1282	Tiwari, S. N.	31	3654
LARC	Coe, P. L., Jr.	OLD DOMINION UNIV	NSG 1309	Goglia, G. L.	41	3655
LARC	Bobbitt, P. J.	OLD DOMINION UNIV	NSG 1311	Goglia, G. L.	41	3656
LARC	Peterson, J. B., Jr.	OLD DOMINION UNIV	NSG 1315	Goglia, G. L.	41	3657
LARC	Hunt, L. R.	OLD DOMINION UNIV	NSG 1318	Keshock, E. G.	41	3658
LARC	Wieting, A. R.	OLD DOMINION UNIV	NSG 1321	Thornton, E. A.	49	3659
LARC	Heyson, H. H.	PENN STATE U-UNIV PK	NGL 39-009-172	Eisenhuth, J. J.	41	3241
LARC	Slemp, W. S.	PENN STATE U-UNIV PK	NSG 1141	Allcock, H. R.	12	3249
LARC	Davis, R. E.	PENN STATE U-UNIV PK	NSG 1280	Cahir, J. J.	31	3250

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LARC	Fisher, B. D.	PENN STATE U-UNIV PK	NSG 1308	McCormick, B. W.	41	3251
LARC	Hoppe, J. C.	POLY INST OF NY	NSG 1198	Lederman, S.	42	2963
LARC	Rudy, D. H.	POLY INST OF NY	NSG 1244	Rubin, S. G.	41	2964
LARC	Salas, M. D.	POLY INST OF NY	NSG 1248	Moretti, G.	41	2965
LARC	Morgan, H. L., Jr.	POLY INST OF NY	NSG 1300	Krenkel, A. R.	41	2966
LARC	Williams, T. S., Jr.	POMONA COLLEGE	NAS 1-11854	Baird, A. K.	12	1271
LARC	Williams, T. S., Jr.	PRINCETON UNIVERSITY	NAS 1-9705	Hargraves, R. B.	19	2750
LARC	Miller, G. K., Jr.	PRINCETON UNIVERSITY	NAS 1-13502	Sockel, E.	41	2751
LARC	Misson, J. S.	PRINCETON UNIVERSITY	NGL 31-001-146	Dowell, E. H.	41	2764
LARC	Reid, H. J., Jr.	PRINCETON UNIVERSITY	NGL 31-001-252	Graham, D.	41	2765
LARC	Hunter, W. W., Jr.	PRINCETON UNIVERSITY	NSG 1070	Miles, R. B.	13	2778
LARC	Crane, H. L.	PRINCETON UNIVERSITY	NSG 1078	Seckel, E.	41	2779
LARC	Hohl, F.	PRINCETON UNIVERSITY	NSG 1129	Stoenescu, M. L.	49	2780
LARC	Crane, H. L.	PRINCETON UNIVERSITY	NSG 1234	Seckel, E.	41	2781
LARC	Misson, J. S.	PRINCETON UNIVERSITY	NSG 1253	Dowell, E. H.	41	2782
LARC	Landrum, E. J.	PURDUE UNIVERSITY	NGR 15-005-119	Marshall, F. J.	41	2126
LARC	Davidson, J. R.	PURDUE UNIVERSITY	NSG 1278	Sun, C. T.	47	2132
LARC	Pao, S. P.	PURDUE UNIVERSITY	NSG 1293	Kentzer, C. P.	41	2133
LARC	Wood, G. M.	RENSSELAER POLY-NY	NSG 1052	White, F. A.	19	2981
LARC	Hood, R. V.	RENSSELAER POLY-NY	NSG 1188	Kaufman, H.	41	2982
LARC	Margason, R. J.	ROSE-HULMAN INST TEC	NSG 1258	Roper, A. T.	41	2142
LARC	Beach, H. L., Jr.	RUTGERS UNIV-NEWARK	NSG 1314	Johnson, J. A., III	13	2793
LARC	Sobieszczanski, J.	ST LOUIS UNIVERSITY	NGL 26-006-021	Long, C. A.	41	2684
LARC	Bell, V. L., Jr.	SHAW UNIVERSITY	NSG 1033	Chatterji, A. K.	12	3073
LARC	Walker, G. H.	SOUTHERN METHODIST U	NSG 1206	Ashley, K. L.	45	3401
LARC	Williams, T. S., Jr.	STANFORD UNIVERSITY	NAS 1-9682	Levinthal, E. C.	99	1332
LARC	Williams, T. S., Jr.	STANFORD UNIVERSITY	NAS 1-9692	Lederberg, J.	51	1333
LARC	Williams, T. S., Jr.	STANFORD UNIVERSITY	NAS 1-9701	Tyler, G. L.	45	1334
LARC	Doggett, R. V., Jr.	STANFORD UNIVERSITY	NGL 05-020-243	Ashley, H.	41	1387
LARC	Reed, W. H., III	STANFORD UNIVERSITY	NGL 05-020-397	Herrmann, G.	41	1390
LARC	Hutchby, J. A.	STANFORD UNIVERSITY	NSG 1201	Pearson, G. L.	13	1417
LARC	Keating, G. M.	STANFORD UNIVERSITY	NSG 1210	Debra, D. B.	49	1418
LARC	Williams, T. S., Jr.	STATE U NY-STONY BRK	NAS 1-10493	Owens, T.	39	3004
LARC	Stermer, R. L.	SYRACUSE UNIVERSITY	NSG 1194	Schroder, K.	45	3033
LARC	Staylor, W. F.	TEXAS A&M UNIVERSITY	NAS 1-14185	Kattawar, G. W.	42	3404
LARC	South, J. C., Jr.	TEXAS A&M UNIVERSITY	NSG 1174	Carlson, L. A.	41	3437
LARC	McCormick, M. P.	UNIV OF ARIZONA	NAS 1-14332	Herman, B. M.	31	1101
LARC	Stroud, W. J.	UNIV CALIF-L ANGELES	NGR 05-007-337	Schmit, L. A.	41	1569
LARC	Bland, S. R.	UNIV CALIF-L ANGELES	NGR 05-007-395	Cole, J. D.	41	1572
LARC	Hammond, C. E.	UNIV CALIF-L ANGELES	NGR 05-007-414	Friedmann, P.	41	1574
LARC	Keating, G. M.	UNIV CALIF-L ANGELES	NGR 05-007-416	Knuth, E. L.	13	1575
LARC	McCormick, M. P.	UNIV CALIF-L ANGELES	NSG 1270	Kuriyan, J. G.	31	1578
LARC	Gessow, A.	UNIV CALIF-SAN DIEGO	NGR 05-009-178	Libby, P. A.	41	1623
LARC	Suit, W. T.	UNIV OF CINCINNATI	NGR 36-004-061	Wells, W. R.	41	3136
LARC	Mikulas, M. M., Jr.	UNIV OF CINCINNATI	NSG 1185	Nayfeh, A. H.	49	3140
LARC	Dunavant, J. C.	UNIV OF CINCINNATI	NSG 1208	Polak, A.	41	3141
LARC	Rainey, R. W.	UNIV COLORADO-BOLDR	NSG 1056	Culp, R. D.	41	1788
LARC	Jones, R. L.	UNIV COLORADO-BOLDR	NSG 1140	Horowitz, I.	45	1789
LARC	Schy, A. A.	UNIV COLORADO-BOLDR	NSG 1213	Wang, S. H.	45	1790
LARC	Mayes, W. H.	UNIV OF CONNECTICUT	NSG 1082	Cooker, H. S.	49	1819
LARC	Johnson, R. W.	UNIV OF DELAWARE	NAS 1-12304	Klemas, V.	39	1830
LARC	Collins, V. G.	UNIV OF DELAWARE	NSG 1149	Klemas, V.	39	1832
LARC	Deaton, J. W.	UNIV OF DELAWARE	NSG 1304	Pipes, R. B.	46	1833
LARC	Margason, R. J.	UNIV OF FLORIDA	NGL 10-005-127	Fearn, R. L.	41	1924
LARC	Williams, T. S., Jr.	UNIV HOUSTON-HOUSTON	NAS 1-9685	Oro, J.	39	3444
LARC	Hardin, J. C.	UNIV HOUSTON-HOUSTON	NSG 1277	Kleis, S. J.	13	3470
LARC	Hefner, J. N.	UNIV HOUSTON-HOUSTON	NSG 1290	Hussain, A. K.	41	3471
LARC	Evans, J. S.	UNIV ILLINOIS-CHICAGO	NSG 1150	Chung, P. M.	41	2075

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LARC	Morgan, H. L., Jr.	UNIV ILLINOIS-URBANA	NGR 14-005-144	Ormsbee, A. I.	41	2077
LARC	Stickle, J. W.	UNIV ILLINOIS-URBANA	NGR 14-005-194	Ormsbee, A. I.	41	2082
LARC	Hohl, F.	UNIV ILLINOIS-URBANA	NSG 1063	Milev, G. H.	13	2086
LARC	Hefner, J. N.	UNIV ILLINOIS-URBANA	NSG 1233	Lin, Y. K.	41	2087
LARC	Maestrello, L.	UNIV ILLINOIS-URBANA	NSG 1264	Lin, Y. K.	41	2088
LARC	Coffee, C. W., Jr.	UNIV OF IOWA	NAS 1-13129	Van Allen, J. A.	13	2167
LARC	Ward, J. F.	UNIV OF KANSAS	NAS 1-12976	Muirhead, V. U.	41	2186
LARC	Crane, H. L.	UNIV OF KANSAS	NGR 17-002-072	Kohlman, D. L.	41	2195
LARC	Pride, R. A.	UNIV OF KANSAS	NGR 17-004-027	Lenzen, K. H.	41	2197
LARC	Lamar, J. E.	UNIV OF KANSAS	NSG 1046	Roskam, J.	41	2198
LARC	Naumann, E. C.	UNIV OF KANSAS	NSG 1122	Lenzen, K. H.	41	2199
LARC	Campbell, J. F.	UNIV OF KANSAS	NSG 1139	Lan, C. E.	41	2200
LARC	Bailey, M. C.	UNIV OF KANSAS	NSG 1142	Biggs, A. W.	45	2201
LARC	Crane, H. L.	UNIV OF KANSAS	NSG 1227	Kohlman, D. L.	41	2202
LARC	Rummler, D. R.	UNIV OF KANSAS	NSG 1269	Zerwekh, R. P.	47	2203
LARC	Howell, W. E.	UNIV OF KANSAS	NSG 1281	Reesie, C. D.	47	2204
LARC	Stephens, D. G.	UNIV OF KANSAS	NSG 1301	Roskam, J.	41	2205
LARC	Campbell, J. F.	UNIV OF KANSAS	NSG 1302	Lan, C. E.	41	2206
LARC	Pritchard, E. B.	UNIV OF KANSAS	NSG 1310	Lenzen, K. H.	44	2207
LARC	Reichle, H. G., Jr.	UNIV OF KENTUCKY	NSG 1273	Peters, L. K.	31	2231
LARC	Mayes, W. H.	UNIV OF LOUISVILLE	NSG 1220	Loeb, M.	69	2235
LARC	Fralich, R. W.	UNIVERSITY OF LOWELL	NSG 1295	McElman, J. A.	41	2533
LARC	Pellett, G. L.	UNIV MARYLAND-COL PK	NSG 1031	Davis, D. D.	12	2343
LARC	Hoell, J. M.	UNIV MARYLAND-COL PK	NSG 1075	Davis, D. D.	39	2344
LARC	Northam, G. B.	UNIV MARYLAND-COL PK	NSG 1156	Gammon, R. W.	31	2345
LARC	McComb, H. G., Jr.	UNIV MARYLAND-COL PK	NSG 1193	Schaeffer, H. G.	41	2346
LARC	Lisagor, W. B.	UNIV OF MIAMI	NSG 1283	Craig, H. L., Jr.	47	1945
LARC	Russell, J. M., III	UNIV MICH-ANN ARBOR	NAS 1-14394	Drayson, S. R.	31	2549
LARC	McCarty, J. L.	UNIV MICH-ANN ARBOR	NGL 23-005-010	Clark, S. R.	41	2575
LARC	Czarnecki, K. R.	UNIV MICH-ANN ARBOR	NGR 23-005-523	Sichel, M.	41	2582
LARC	Fichter, W. B.	UNIV MICH-ANN ARBOR	NGR 23-005-528	Felbeck, D. K.	47	2583
LARC	Reichle, H. G., Jr.	UNIV MICH-ANN ARBOR	NGR 23-005-617	Drayson, S. R.	31	2588
LARC	Russell, J. M., III	UNIV MICH-ANN ARBOR	NSG 1003	Drayson, S. R.	31	2589
LARC	McCarty, J. L.	UNIV MICH-ANN ARBOR	NSG 1080	Clark, S. K.	41	2590
LARC	Straeter, T. A.	UNIV MICH-ANN ARBOR	NSG 1176	Holland, J. H.	21	2591
LARC	Stough, H. P.	UNIV MICH-ANN ARBOR	NSG 1229	Kroeger, R. A.	41	2592
LARC	Pellett, G. L.	UNIV MICH-ANN ARBOR	NSG 1243	Dingle, A. N.	31	2593
LARC	Bavuso, S. J.	UNIV MICH-ANN ARBOR	NSG 1306	Meyer, J. F.	45	2594
LARC	Williams, T. S., Jr.	U MINN-MNPLS-ST PAUL	NAS 1-9697	Nier, A. O.	99	2614
LARC	Beswick, A. G.	U MINN-MNPLS-ST PAUL	NAS 1-11676	Nier, A. O.	31	2615
LARC	Keating, G. M.	U MINN-MNPLS-ST PAUL	NAS 1-13712	Mauersberger, K.	31	2616
LARC	Mixson, J. S.	UNIV MO-ROLLA	NSG 1050	Koval, L. R.	41	2703
LARC	Williams, T. S., Jr.	UNIV OF NEW MEXICO	NAS 1-11855	Keil, K.	12	2814
LARC	Hellbaum, R. F.	UNIV OF NEW MEXICO	NGR 32-004-026	Richards, C. G.	46	2833
LARC	Hendricks, H. D.	UNIV OF NOTRE DAME	NSG 1102	Magee, C. J.	45	2144
LARC	Gross, C.	UNIV OKLAHOMA-NORMAN	NSG 1183	Kahng, S. K.	45	3176
LARC	Suttles, J. T.	UNIV OF RHODE ISLAND	NSG 1008	Spaulding, M. L.	49	3302
LARC	Gainer, P. A.	UNIV OF ROCHESTER	NSG 1211	Brown, J. L.	69	3038
LARC	Park, S. K.	UNIV OF SO FLORIDA	NSG 1159	Tsokos, C. P.	21	1949
LARC	Kilgore, R. A.	UNIV OF SOUTHAMPTON	NSG 7172	Goodyer, M. J.	41	3819
LARC	Seiner, J. M.	UNIV OF SOUTHERN CAL	NSG 1221	Laufer, J.	41	1717
LARC	Johnston, N. J.	UNIV SO MISSISSIPPI	NGR 25-005-005	Thames, S. F.	12	2682
LARC	Wood, G. M.	UNIV SO MISSISSIPPI	NSG 1285	Rayborn, G. H.	13	2683
LARC	Clark, L. R.	UNIV TENNESSEE-KNOXV	NSG 1081	Lumsdaine, E.	41	3342
LARC	Newman, J. C., Jr.	UNIV TENNESSEE-KNOXV	NSG 1163	Wright, M. A.	47	3343
LARC	Hammond, C. E.	UNIV TENNESSEE-KNOXV	NSG 1171	Lumsdaine, E.	41	3344
LARC	Bland, S. R.	UNIV TENNESSEE-KNOXV	NSG 1224	Kimble, K. R.	41	3345
LARC	Smith, R. E.	UNIV TENNESSEE-KNOXV	NSG 1261	Baker, A. J.	21	3346

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LARC	Hilton, D. A.	UNIV TEXAS-AUSTIN	NAS 1-14160	Blackstock, D. T.	41	3478
LARC	Williams, T. S., Jr.	UNIV TEXAS-DALLAS	NAS 1-9699	Hanson, W. B.	99	3521
LARC	Foye, R. L.	UNIV OF TORONTO	NGR 52-026-039	Tennyson, R. C.	41	3814
LARC	Foye, R. L.	UNIV OF TORONTO	NSG 7219	Tennyson, R. C.	47	3816
LARC	Williams, T. S., Jr.	UNIV OF UTAH	NAS 1-12705	Shorthill, R. W.	19	3557
LARC	Hardesty, C. A.	UNIV OF UTAH	NGL 45-003-025	Weil, H.	31	3565
LARC	Lawton, B. W.	UNIV OF UTAH	NSG 1272	Shepherd, K. P.	39	3569
LARC	Kelly, W. L.	UNIV OF VIRGINIA	NAS 1-10210	White, E. J.	45	3662
LARC	Martin, D. J.	UNIV OF VIRGINIA	NAS 1-12754	Barnes, D. W.	99	3663
LARC	Schoonover, W. E., Jr.	UNIV OF VIRGINIA	NGR 47-005-181	Kuhlthau, A. R.	41	3671
LARC	Lichtenstein, J. H.	UNIV OF VIRGINIA	NGR 47-005-208	Jacobson, I. R.	41	3674
LARC	Schoenster, J. A.	UNIV OF VIRGINIA	NGR 47-005-219	Haviland, J. K.	41	3676
LARC	Kilgore, R. A.	UNIV OF VIRGINIA	NSG 1010	Zapata, R. N.	41	3677
LARC	Hueschen, R. M.	UNIV OF VIRGINIA	NSG 1101	Cook, G.	49	3678
LARC	Shultz, L. R.	UNIV OF VIRGINIA	NSG 1128	McAlpine, G. A.	45	3679
LARC	Barker, L. E.	UNIV OF VIRGINIA	NSG 1151	Parrish, E. A., Jr.	21	3680
LARC	Leatherwood, J. D.	UNIV OF VIRGINIA	NSG 1180	Jacobson, I. D.	41	3681
LARC	Husson, C.	UNIV OF VIRGINIA	NSG 1223	Parrish, E. A., Jr.	45	3682
LARC	Alvarez, J. M.	UNIV OF VIRGINIA	NSG 1256	Singer, S. F.	11	3683
LARC	Snyder, W. J.	UNIV OF VIRGINIA	NSG 1274	Jacobson, I. D.	49	3684
LARC	Williams, T. S., Jr.	UNIV OF WASHINGTON	NAS 1-9694	Leovy, C. B.	31	3735
LARC	Russell, J. M., III	UNIV OF WASHINGTON	NAS 1-14341	Leovy, C. B.	31	3736
LARC	Heyson, H. H.	UNIV OF WASHINGTON	NGL 48-002-010	Joppa, R. G.	41	3744
LARC	Heyson, H. H.	UNIV OF WASHINGTON	NGL 48-002-035	Rae, W. H.	41	3745
LARC	Northam, G. B.	UNIV WISC-MADISON	NAS 1-14136	Weinman, J. A.	31	3771
LARC	Campbell, J. W.	UNIV WISC-MADISON	NSG 1196	Johnson, R. A.	21	3798
LARC	Young, W. H., Jr.	UNIV WISC-MILWAUKEE	NGR 50-007-001	Bratanow, T.	41	3806
LARC	Crumbly, K. H.	UNIV OF WYOMING	NAS 1-13213	Pepin, T. J.	31	3808
LARC	Hedgepeth, K. D.	UNIV OF WYOMING	NAS 1-13797	Pepin, T. J.	31	3809
LARC	McCormick, M. P.	UNIV OF WYOMING	NAS 1-14373	Pepin, T. J.	31	3810
LARC	Hohl, F.	VANDERBILT UNIVERSTY	NSG 1232	Lee, J. H.	13	3354
LARC	Hohl, F.	VANDERBILT UNIVERSTY	NSG 1235	Lee, J. H.	13	3355
LARC	Wilkins, J. R.	VIRGINIA COMNWLTH U	NGL 47-002-020	Dalton, H. P.	51	3686
LARC	Bell, V. L., Jr.	VIRGINIA COMNWLTH U	NGR 47-002-041	Stump, B. L.	12	3687
LARC	Creedon, J. F.	VA MILITARY INSTITUT	NGR 47-018-005	Reid, G. F.	41	3688
LARC	Byvik, C. E.	VIRGINIA POLY INST	NAS 1-10646	Wightman, J. P.	31	3689
LARC	Martin, D. J.	VIRGINIA POLY INST	NAS 1-13175	Robertson, R. M.	49	3690
LARC	Posey, J. W.	VIRGINIA POLY INST	NAS 1-13884	Nayfeh, A. H.	13	3691
LARC	Anderson, A. F.	VIRGINIA POLY INST	NGR 47-004-090	Drew, D. R.	41	3699
LARC	Stein, B. A.	VIRGINIA POLY INST	NGR 47-004-108	Lytton, J. L.	47	3700
LARC	Hayduk, R. J.	VIRGINIA POLY INST	NGR 47-004-114	Kamat, M. P.	44	3701
LARC	Montgomery, R. C.	VIRGINIA POLY INST	NGR 47-004-116	Caglayan, A. K.	41	3702
LARC	Davis, J. G., Jr.	VIRGINIA POLY INST	NGR 47-004-129	Herakovich, C. T.	49	3704
LARC	Montgomery, R. C.	VIRGINIA POLY INST	NSG 1015	Cliff, E. M.	41	3705
LARC	Smith, A.	VIRGINIA POLY INST	NSG 1020	Sanzone, G.	13	3706
LARC	Newman, J. C., Jr.	VIRGINIA POLY INST	NSG 1024	Smith, C. W.	41	3707
LARC	Johnston, N. J.	VIRGINIA POLY INST	NSG 1064	Wolfe, J. F.	12	3708
LARC	Campbell, J. W.	VIRGINIA POLY INST	NSG 1071	Hinkelmann, K.	21	3709
LARC	Young, P. R.	VIRGINIA POLY INST	NSG 1085	Mason, J. G.	12	3710
LARC	Davidson, J. R.	VIRGINIA POLY INST	NSG 1099	Heller, R. A.	41	3711
LARC	Kruszewski, E. T.	VIRGINIA POLY INST	NSG 1109	Meirovitch, L.	44	3712
LARC	Kvaternik, R. G.	VIRGINIA POLY INST	NSG 1114	Meirovitch, L.	41	3713
LARC	Sentell, R. J.	VIRGINIA POLY INST	NSG 1119	Furr, A. K.	13	3714
LARC	Progar, D. J.	VIRGINIA POLY INST	NSG 1124	Wightman, J. P.	12	3715
LARC	Campbell, J. W.	VIRGINIA POLY INST	NSG 1182	Myers, R. H.	31	3716
LARC	Pellett, G. L.	VIRGINIA POLY INST	NSG 1195	Wightman, J. P.	12	3717
LARC	Tenney, D. R.	VIRGINIA POLY INST	NSG 1214	Houska, C. R.	47	3718
LARC	Dibattista, J. D.	VIRGINIA POLY INST	NSG 1230	Drew, S. W.	43	3719

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LARC	Wichorek, G. R.	VIRGINIA POLY INST	NSG 1238	Henneke, E. G.	49	3720
LARC	Montgomery, R. C.	VIRGINIA POLY INST	NSG 1239	Van Landingham, H. E.	41	3721
LARC	Davis, J. G., Jr.	VIRGINIA POLY INST	NSG 1250	Herakovich, C. T.	49	3722
LARC	Price, H. L.	VIRGINIA POLY INST	NSG 1254	Stinchcomb, W. W.	46	3723
LARC	Hefner, J. N.	VIRGINIA POLY INST	NSG 1255	Nayfeh, A. H.	41	3724
LARC	Yates, E. C., Jr.	VIRGINIA POLY INST	NSG 1262	Nayfeh, A. H.	41	3725
LARC	Maahs, H. G.	VIRGINIA POLY INST	NSG 1275	Frair, K. L.	19	3726
LARC	Miserentino, R.	VIRGINIA POLY INST	NSG 1276	Hallauer, W. L., Jr.	49	3727
LARC	St Clair, T. L.	VIRGINIA POLY INST	NSG 1286	Ogliaruso, M. A.	12	3728
LARC	Lester, H. C.	VIRGINIA STATE COL	NGL 47-014-009	Agrawal, K. M.	41	3733
LARC	Wilson, J. W.	VIRGINIA STATE COL	NGR 47-014-006	Stronach, C. E.	13	3734
LARC	Williams, T. S., Jr.	WASHINGTON UNIVERSTY	NAS 1-13889	Arvidson, R. E.	39	2705
LARC	Heyman, J. S.	WASHINGTON UNIVERSTY	NSG 1016	Miller, J. G.	13	2713
LARC	Kelly Iv, W. L.	WASHINGTON UNIVERSTY	NSG 1084	Arvidson, R. E.	32	2714
LARC	Deaton, J. W.	WASHINGTON UNIVERSTY	NSG 1157	Wu, E. M.	46	2715
LARC	Johnson, J. W.	WEST VIRGINIA UNIV	NGR 49-001-056	Balanis, C. A.	45	3768
LARC	Noonan, K. W.	WICHITA STATE UNIV	NGR 17-003-021	Wentz, W. H., Jr.	41	2217
LARC	McGhee, R. J.	WICHITA STATE UNIV	NSG 1165	Wentz, W. H., Jr.	41	2218
LARC	Bowman, J. S., Jr.	WICHITA STATE UNIV	NSG 1189	Craig, A. J.	41	2219
LARC	Morgan, H. L., Jr.	WICHITA STATE UNIV	NSG 1192	Zumwalt, G. W.	41	2220
LARC	Outlaw, R. A.	XAVIER UNIV-LA	NSG 1218	Ioup, J. W.	13	2267
LARC	Hueschen, R. M.	YOUNGSTOWN STATE U	NSG 1199	Foulkes, R. H., Jr.	49	3165
LERC	Gaunter, J. W.	ARIZONA STATE UNIV	NSG 3075	Metzger, D. E.	41	1096
LERC	Morris, J. F.	ARIZONA STATE UNIV	NSG 7019	Jacobson, D. L.	13	1097
LERC	Decker, A. J.	AUBURN UNIV-AUBURN	NSG 3109	Ranson, W. F.	49	1032
LERC	Roth, J. R.	BRIGHAM YOUNG UNIV	NSG 3068	Gardner, A. L.	13	3556
LERC	Young, S. G.	CHICAGO STATE UNIV	NSG 3030	Treptow, R. S.	99	2034
LERC	Sandercock, D. M.	CALIF INST OF TECH	NGL 05-002-136	Rannie, W. D.	41	1206
LERC	Coe, H. H.	CAL STATE U-NRTHRDGE	NSG 3065	Nypan, L. J.	46	1266
LERC	Priem, R. J.	CAL STATE U-SACRAMEN	NGR 05-058-003	Reardon, F. H.	42	1267
LERC	Witzke, W.	CARNEGIE-MELLON UNIV	NAS 3-18929	Bhat, G. K.	47	3197
LERC	Klopp, W. D.	CARNEGIE-MELLON UNIV	NGR 39-087-003	Low, J. R., Jr.	47	3193
LERC	Klopp, W. D.	CARNEGIE-MELLON UNIV	NGR 39-087-047	Low, J. R., Jr.	47	3200
LERC	Srawley, J. E.	CARNEGIE-MELLON UNIV	NGR 39-087-053	Swedlow, J. L.	46	3201
LERC	Ludwig, L. P.	CARNEGIE-MELLON UNIV	NSG 3023	Hughes, W. F.	46	3202
LERC	Nichols, L. D.	CASE WESTERN RESERVE	NGL 36-003-064	Reshotko, E.	19	3081
LERC	Glasgow, T. K.	CASE WESTERN RESERVE	NGL 36-003-094	Ebert, L. J.	47	3082
LERC	Andrews, C. W.	CASE WESTERN RESERVE	NGR 36-027-051	Hehemann, R. H.	47	3084
LERC	Bishop, A. R.	CASE WESTERN RESERVE	NGR 36-027-064	Reshotko, E.	41	3086
LERC	Kohl, F. J.	CASE WESTERN RESERVE	NSG 3009	Mateescu, G. D.	12	3089
LERC	Probst, H. B.	CASE WESTERN RESERVE	NSG 3027	Mitchell, T. E.	47	3090
LERC	Fortini, A.	CASE WESTERN RESERVE	NSG 3040	Dybbs, A.	47	3091
LERC	Labus, T. L.	CASE WESTERN RESERVE	NSG 3053	Ostrach, S.	49	3092
LERC	Bober, L. J.	CASE WESTERN RESERVE	NSG 3058	Reshotko, E.	41	3093
LERC	Sockol, P. M.	CASE WESTERN RESERVE	NSG 3062	Reshotko, E.	41	3094
LERC	Connolley, D. J.	CASE WESTERN RESERVE	NSG 3074	Angus, J. C.	43	3095
LERC	Brewe, D. E.	CASE WESTERN RESERVE	NSG 3077	Savage, M.	46	3096
LERC	Neustadter, H. E.	CASE WESTERN RESERVE	NSG 3078	Zacks, S.	21	3097
LERC	Nice, A. W.	CASE WESTERN RESERVE	NSG 3085	Pao, J. H.	45	3098
LERC	Anderson, B. H.	CASE WESTERN RESERVE	NSG 3115	Lynch, W. C.	41	3099
LERC	Hirschberg, M. H.	CASE WESTERN RESERVE	NSG 7035	Manson, S. S.	47	3100
LERC	Deissler, R. G.	CATHOLIC UNIVERSITY	NGR 09-005-099	Ling, S. C.	41	1839
LERC	Raquet, C. A.	CENTRAL ST UNIV-OHIO	NGR 36-033-002	Rubin, D.	51	3102
LERC	Fordyce, J. S.	CENTRAL ST UNIV-OHIO	NGR 36-033-003	Craft, T. J., Sr.	51	3103
LERC	Serafini, T. T.	CLARKSON COL OF TECH	NSG 3100	Jellinek, H. H.	12	2861
LERC	Townsend, D. P.	CLEVELAND STATE UNIV	NAS 3-18547	Kasuba, R.	46	3105
LERC	Priem, R. J.	COLORADO STATE UNIV	NGR 06-002-095	Mitchell, C. E.	42	1739
LERC	Kerslake, W. R.	COLORADO STATE UNIV	NGR 06-002-112	Wilbur, P. J.	46	1742

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LERC	Serafini, J. S.	COLORADO STATE UNIV	NGR 06-002-147	Wilhelm, H. E.	42	1745
LERC	Brown, G. V.	COLORADO STATE UNIV	NGR 06-002-159	Etters, R. D.	13	1746
LERC	Mirtich, M. J.	COLORADO STATE UNIV	NSG 3011	Kaufman, H. R.	42	1750
LERC	Domitz, S.	COLORADO STATE UNIV	NSG 3038	Kaufman, H. R.	19	1751
LERC	Chubb, D. L.	COLORADO STATE UNIV	NSG 3060	Collins, G. J.	13	1752
LERC	Theman, E. R.	COLORADO STATE UNIV	NSG 3086	Kaufman, H. R.	13	1753
LERC	Glasgow, T. K.	COLUMBIA UNIVERSITY	NSG 3050	Tien, J. K.	47	2888
LERC	Brown, G. V.	CORNELL UNIVERSITY	NGR 33-010-188	Krumhansl, J. A.	13	2922
LERC	Aron, P. R.	CORNELL UNIVERSITY	NGR 33-010-189	Ruoff, A. L.	47	2923
LERC	Marek, C. J.	CORNELL UNIVERSITY	NSG 3019	Gouldin, F. C.	41	2928
LERC	Chamis, C. C.	CORNELL UNIVERSITY	NSG 3080	Moon, F. C.	41	2929
LERC	Zeleznik, F. J.	DREXEL UNIVERSITY	NSG 3090	Rosen, G. H.	21	3208
LERC	Baker, C. E.	GEORGE WASHINGTON U	NSR 09-010-027	Schiff, H. I.	59	1875
LERC	Hein, G. F.	GEORGIA INST OF TECH	NAS 3-17827	Zimmer, R. P.	49	1961
LERC	Conroy, M. J.	GEORGIA INST OF TECH	NAS 3-18901	Bassett, H. L.	45	1962
LERC	Stevenson, S. M.	GEORGIA INST OF TECH	NAS 3-19700	Camp, A. A.	49	1963
LERC	Stevens, G.	GEORGIA INST OF TECH	NAS 3-20110	Hilson, N.	45	1964
LERC	Jones, W. R., Jr.	GEORGIA INST OF TECH	NGR 11-002-133	Winer, W. O.	46	1982
LERC	Priem, R. J.	GEORGIA INST OF TECH	NGR 11-002-179	Zinn, B. T.	42	1985
LERC	Huff, R. G.	GEORGIA INST OF TECH	NSG 3015	Strahle, W. C.	13	1991
LERC	Feiler, C. E.	GEORGIA INST OF TECH	NSG 3036	Zinn, B. T.	41	1992
LERC	Priem, R. J.	GEORGIA INST OF TECH	NSG 3052	Zinn, B. T.	42	1993
LERC	Wedeven, L. D.	GEORGIA INST OF TECH	NSG 3106	Winer, W. O.	46	1994
LERC	Buckley, D. H.	HIRAM COLLEGE	NSG 3026	Wheeler, D. R.	47	3106
LERC	Sockol, P. M.	IOWA STATE UNIV	NSG 3033	Serovy, G. K.	41	2166
LERC	Zuk, J.	JACKSON STATE UNIV	NSG 3004	Chu, C. S.	49	2654
LERC	Ashbrook, R. L.	LEHIGH UNIVERSITY	NGL 39-007-007	Kraft, R. W.	47	3216
LERC	Hacker, P. T.	MASS INST OF TECH	NAS 3-17534	Senturia, S. D.	19	2422
LERC	Quatinetz, M.	MASS INST OF TECH	NGL 22-009-003	Grant, N. J.	47	2443
LERC	McNally, W. D.	MASS INST OF TECH	NGL 22-009-383	Kerrebrock, J. L.	41	2452
LERC	Siewert, R. D.	MASS INST OF TECH	NGR 22-009-339	Witmer, E. A.	41	2460
LERC	Mularz, E. J.	MASS INST OF TECH	NGR 22-009-378	Heywood, J. B.	43	2462
LERC	Baumeister, K. J.	MASS INST OF TECH	NGR 22-009-805	Ingard, K. U.	41	2486
LERC	Weinberg, I.	MASS INST OF TECH	NSG 3017	Gatos, H. C.	13	2505
LERC	Chamis, C. C.	MASS INST OF TECH	NSG 3044	McGarry, F. G.	49	2506
LERC	Scheuermann, C. M.	MASS INST OF TECH	NSG 3046	Flemings, M. C.	47	2507
LERC	Gluyas, R. E.	MASS INST OF TECH	NSG 3061	Senturia, S. D.	19	2508
LERC	Vary, A.	MASS INST OF TECH	NSG 3064	Williams, J. H., Jr.	47	2509
LERC	Norgren, C. T.	MASS INST OF TECH	NSG 3076	Keck, J. C.	41	2510
LERC	Adamczyk, J. J.	MASS INST OF TECH	NSG 3079	Kerrebrock, J. L.	41	2511
LERC	Reinmann, J. J.	MASS INST OF TECH	NSG 3088	Lax, B.	13	2512
LERC	McNally, W. D.	MASS INST OF TECH	NSG 3093	Kerrebrock, J. L.	41	2513
LERC	Norgren, C. T.	MASS INST OF TECH	NSG 3102	Howard, J. B.	43	2514
LERC	Orange, T. W.	MICHIGAN STATE UNIV	NSG 3101	Sharp, W. N., Jr.	49	2548
LERC	Fleming, D. P.	MISSISSIPPI STATE U	NGR 25-001-050	Stiffler, A. K.	46	2670
LERC	Fleming, D. P.	MISSISSIPPI STATE U	NSG 3111	Stiffler, A. K.	46	2677
LERC	Salzman, J. A.	NEW MEX ST U-LAS CR	NSG 3069	Armstrong, R. L.	13	2812
LERC	Neustadter, H. E.	NEW YORK UNIVERSITY	NGR 33-016-197	Hoydysh, W. G.	39	2947
LERC	Labus, T. L.	NEW YORK UNIVERSITY	NSG 3059	Keller, J. B.	49	2952
LERC	Godlewski, M. P.	NO CAROLINA STATE U	NGR 34-002-195	Hauser, J. R.	45	3063
LERC	Lad, R. A.	NORTHWESTERN UNIV	NGL 14-007-081	Waber, J. T.	13	2042
LERC	Zaretsky, E. V.	NORTHWESTERN UNIV	NGR 14-007-084	Cheng, H.	46	2043
LERC	Behrendt, D. R.	NORTHWESTERN UNIV	NGR 14-007-131	Waber, J. T.	13	2045
LERC	Ludwig, L. P.	NORTHWESTERN UNIV	NSG 3039	Burton, R. A.	47	2048
LERC	Zaretsky, E. V.	NORTHWESTERN UNIV	NSG 3042	Cheng, H. S.	46	2049
LERC	Gray, H. R.	OHIO STATE UNIV	NGL 36-008-051	Beck, F. H.	47	3118
LERC	Cooper, D. W.	OHIO STATE UNIV	NSG 3005	Peake, W. H.	45	3130
LERC	Heidmann, M. F.	PENN STATE U-UNIV PK	NAS 3-17855	Lakshminarayana, B.	41	3227

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LERC	Britsch, W. R.	PENN STATE U-UNIV PK	NGL 39-009-001	Holl, J. W.	41	3235
LERC	Britsch, W. R.	PENN STATE U-UNIV PK	NGL 39-009-007	Lakshminarayana, B.	41	3238
LERC	Hirschberg, M. H.	PENN STATE U-UNIV PK	NGR 39-009-034	Zamrik, S. Y.	47	3242
LERC	Priem, R. J.	PENN STATE U-UNIV PK	NGR 39-009-077	Faeth, G. M.	42	3243
LERC	Stone, J. R.	PENN STATE U-UNIV PK	NGR 39-009-270	Arndt, R. E.	41	3246
LERC	Dittmar, J. H.	PENN STATE U-UNIV PK	NGR 39-009-275	Henderson, R. E.	46	3247
LERC	Heidmann, M. F.	PENN STATE U-UNIV PK	NSG 3012	Lakshminarayana, B.	41	3253
LERC	Sanders, W. A.	PENN STATE U-UNIV PK	NSG 3016	Bradt, R. C.	47	3254
LERC	Sanger, N. L.	PENN STATE U-UNIV PK	NSG 3031	Henderson, R. E.	41	3255
LERC	Sockol, P. M.	PENN STATE U-UNIV PK	NSG 3032	Lakshminarayana, B.	41	3256
LERC	Stevens, N. J.	PENN STATE U-UNIV PK	NSG 3097	Robinson, J. W.	49	3257
LERC	Will, H. A.	POLY INST OF NY	NSG 3108	Lederman, S.	13	2968
LERC	Chamis, C. C.	PRINCETON UNIVERSITY	NGR 31-001-267	Dowell, E. H.	41	2772
LERC	Stone, J. R.	PRINCETON UNIVERSITY	NGR 31-001-307	Plett, E. G.	41	2775
LERC	Dunning, J. W., Jr.	PRINCETON UNIVERSITY	NGR 31-001-312	Glassman, I.	12	2776
LERC	Minner, G. L.	PURDUE UNIVERSITY	NAS 3-18010	Vaidya, P. G.	41	2113
LERC	Davison, H. W.	PURDUE UNIVERSITY	NGR 15-005-147	Lecuyer, M. R.	41	2127
LERC	Bishop, A. R.	PURDUE UNIVERSITY	NGR 15-005-162	Hoffman, J. D.	41	2129
LERC	Bishop, A. R.	PURDUE UNIVERSITY	NGR 15-005-191	Hoffman, J. D.	41	2131
LERC	Feiler, C. E.	PURDUE UNIVERSITY	NSG 3029	Peterson, A. M.	46	2136
LERC	Davidson, H. W.	PURDUE UNIVERSITY	NSG 3071	L'ecuyer, M. R.	41	2137
LERC	Katsanis, T.	PURDUE UNIVERSITY	NSG 3105	Thompson, H. D.	41	2138
LERC	Lad, R. A.	RENSSELAER POLY-NY	NGL 33-018-003	Wiberly, S. E.	47	2975
LERC	Bill, R. C.	RENSSELAER POLY-NY	NGR 33-018-152	Ling, F. F.	41	2979
LERC	Grimes, H. H.	RENSSELAER POLY-NY	NSG 3007	Diefendorf, R. J.	47	2983
LERC	Reinmann, J. J.	RENSSELAER POLY-NY	NSG 3057	Hickok, R. L., Jr.	13	2984
LERC	Lad, R. A.	RICE UNIVERSITY	NGL 44-006-001	Rorschach, H. E.	13	3390
LERC	Anderson, W. J.	ROCHESTER INST TECH	NSG 3072	Rieger, N. F.	46	2987
LERC	Colladay, R. S.	STANFORD UNIVERSITY	NAS 3-14336	Kays, W. M.	41	1339
LERC	Graham, R. W.	STANFORD UNIVERSITY	NGL 05-020-134	Kays, W. M.	46	1384
LERC	Whittenberger, J. D.	STANFORD UNIVERSITY	NGR 05-020-671	Sherby, O. D.	47	1410
LERC	Baraona, C. R.	STATE UNIV NY-ALBANY	NSG 3095	Corbett, J. W.	39	2992
LERC	Morris, J. F.	STATE UNIV NY-BUFFAL	NSG 7071	Shaw, D. T.	13	3003
LERC	Levine, S. R.	STATE U NY-STONY BRK	NGR 33-015-160	Seigle, L. L.	47	3012
LERC	Gordon, S.	STATE U NY-STONY BRK	NGR 33-015-163	Berlad, A. L.	39	3013
LERC	Cochran, T. H.	STATE U NY-STONY BRK	NSG 3051	Berlad, A. L.	43	3018
LERC	Hirschberg, M. H.	SYRACUSE UNIVERSITY	NGR 33-022-157	Liu, H. W.	47	3032
LERC	Priem, R. J.	TENNESSEE TECH U	NGR 43-003-015	Purdy, K. R.	46	3328
LERC	Priem, R. J.	TULANE UNIVERSITY	NGR 19-002-030	O'Hara, J. C.	41	2262
LERC	Fordyce, J. S.	UNIV OF ALBUQUERQUE	NSG 3092	Urzendowski, R. M.	12	2813
LERC	Stephens, J. R.	UNIV CALIF-BERKELEY	NGR 05-003-562	Morris, J. W.	47	1490
LERC	Marek, C. J.	UNIV CALIF-BERKELEY	NSG 3028	Branch, M. C.	46	1503
LERC	King, R. B.	UNIV CALIF-DAVIS	NAS 3-19850	Cahill, T.	47	1512
LERC	Johnson, R. L.	UNIV CALIF-L ANGELES	NGR 05-007-338	Amstutz, H. C.	47	1570
LERC	Savino, J. M.	UNIV CALIF-L ANGELES	NSG 3082	Friedman, P. P.	46	1581
LERC	Woollam, J. A.	UNIV CALIF-SAN DIEGO	NSG 3034	Oesterreicher, H.	47	1634
LERC	Cochran, T. H.	UNIV CALIF-SAN DIEGO	NSG 3047	Williams, F. A.	43	1635
LERC	Woollam, J. A.	UNIV CALIF-SAN DIEGO	NSG 3055	Webb, G. W.	19	1636
LERC	Woollam, J. A.	UNIV CALIF-SAN DIEGO	NSG 3103	Luo, H. L.	13	1637
LERC	Rice, E. J.	UNIV OF CANTERBURY	NSG 7192	Eversman, W.	46	3824
LERC	Prust, H. W., Jr.	UNIV OF CINCINNATI	NGR 36-004-064	Tabakoff, W.	41	3137
LERC	Sundberg, G. R.	UNIV OF CINCINNATI	NSG 3022	Henderson, H. T.	45	3142
LERC	Grier, N. T.	UNIV OF CINCINNATI	NSG 3024	Nevin, J. H.	45	3143
LERC	Jones, R. E.	UNIV OF CINCINNATI	NSG 3045	Kauffman, C. W.	41	3144
LERC	Davison, H. W.	UNIV OF CINCINNATI	NSG 3066	Tabakoff, W.	41	3145
LERC	Blue, J. W.	UNIV OF CINCINNATI	NSG 3091	Jha, S.	13	3146
LERC	Deissler, R. G.	UNIV COLORADO-BOLDR	NGR 06-003-208	Uberoi, M. S.	41	1783
LERC	Hein, G. F.	UNIV OF DAYTON	NAS 3-19699	Engler, N. A.	73	3147

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LERC	Stevenson, S. M.	UNIV OF DAYTON	NAS 3-20365	Martino, J.	39	3148
LERC	Post, R. E.	UNIV OF FLORIDA	NGL 10-005-022	Walker, R. D., Jr.	43	1922
LERC	Sheibley, D. W.	UNIV OF FLORIDA	NGR 10-005-182	Walker, R. D., Jr.	43	1927
LERC	Godlewski, M. P.	UNIV OF FLORIDA	NSG 3018	Lindholm, F. A.	45	1929
LERC	Bober, L. J.	UNIV ILLINOIS-URBANA	NGL 14-005-140	Chow, W. L.	41	2076
LERC	Karchmer, A. M.	UNIV ILLINOIS-URBANA	NGR 14-005-149	Jones, B. G.	41	2078
LERC	Marek, C. J.	UNIV ILLINOIS-URBANA	NGR 14-005-193	Strehlow, R. A.	41	2081
LERC	Dunning, J. W., Jr.	UNIV ILLINOIS-URBANA	NGR 14-005-200	Verdeyen, J. T.	13	2083
LERC	Siewert, R. D.	UNIV ILLINOIS-URBANA	NSG 3008	Strehlow, R. A.	13	2091
LERC	Cochran, T. H.	UNIV ILLINOIS-URBANA	NSG 3043	Strehlow, R. A.	43	2092
LERC	Siewert, R. D.	UNIV ILLINOIS-URBANA	NSG 3056	Strehlow, R. A.	49	2093
LERC	Scribbe, H. W.	UNIV ILLINOIS-URBANA	NSG 3098	Conry, T. F.	46	2094
LERC	Couch, J. P.	UNIV OF KANSAS	NSG 3087	Lenzen, K. H.	46	2209
LERC	Sanders, W. A.	UNIV OF KENTUCKY	NGL 18-001-042	Leipold, M. H.	47	2227
LERC	Haggard, J. B., Jr.	UNIV OF KENTUCKY	NGR 18-001-083	Hsu, N. N.	13	2229
LERC	Gordon, S.	UNIV OF KENTUCKY	NGR 18-001-086	Conger, W. L.	12	2230
LERC	Brown, W. F., Jr.	UNIV OF KENTUCKY	NSG 3013	Conrad, H.	47	2232
LERC	Simoneau, R. J.	UNIV MARYLAND-COL PK	NGR 21-002-344	Sengers, J. V.	13	2333
LERC	Coles, W. D.	UNIV MARYLAND-COL PK	NGR 21-002-400	Spain, I. L.	13	2338
LERC	Stephens, J. R.	UNIV MARYLAND-COL PK	NSG 3001	Drew, H. D.	47	2348
LERC	Shannon, J. L., Jr.	UNIV OF MIAMI	NGR 10-007-118	Craig, H. L., Jr.	47	1944
LERC	Wright, D.	UNIV MICH-ANN ARBOR	NAS 3-19533	Ferris, J.	42	2554
LERC	Ream, L. W.	UNIV MICH-ANN ARBOR	NAS 3-20051	Kroeger, R. A.	46	2555
LERC	Freche, J. C.	UNIV MICH-ANN ARBOR	NGL 23-005-005	Wilson, D. J.	47	2574
LERC	Haggard, J. B., Jr.	UNIV MICH-ANN ARBOR	NGR 23-005-536	Nicholls, J. A.	42	2584
LERC	Weigand, A. J.	U MINN-MNPLS-ST PAUL	NSG 3041	Wehner, G. K.	13	2640
LERC	Morris, J. F.	U MINN-MNPLS-ST PAUL	NSG 3094	Chanin, L. M.	19	2641
LERC	Gutierrez, O. A.	UNIV MISS-UNIVERSITY	NAS 3-19431	Shields, F. D.	41	2679
LERC	Wedeven, L. D.	UNIV MO-ROLLA	NSG 3113	Medrow, R. A.	46	2704
LERC	Hyland, R. F.	UNIV OF NEW MEXICO	NAS 3-18522	Long, W. W.	49	2815
LERC	Hyland, R. F.	UNIV OF NEW MEXICO	NAS 3-19434	Burch, E.	49	2816
LERC	Cochran, T. H.	UNIV OF NOTRE DAME	NAS 3-20087	Kanury, M.	13	2143
LERC	Feiler, C. E.	UNIV OF NOTRE DAME	NSG 3037	Atassi, H.	41	2145
LERC	Lehtinen, B.	UNIV OF NOTRE DAME	NSG 3048	Leake, R. J.	45	2146
LERC	Kish, J. A.	UNIV OF NOTRE DAME	NSG 3070	Nzhas, J. J.	19	2147
LERC	Baker, C. E.	UNIV OF PITTSBURGH	NGR 39-011-161	Kaufman, F.	12	3284
LERC	Stephens, J. R.	UNIV OF PITTSBURGH	NGR 39-011-164	Meier, G. H.	47	3285
LERC	Fordyce, J. S.	UNIV OF PITTSBURGH	NSG 3002	Liu, C. C.	12	3288
LERC	O'Donnell, P. M.	UNIV OF PITTSBURGH	NSG 3010	Liv, C. C.	12	3289
LERC	Fordyce, J. S.	UNIV OF SO ALABAMA	NSG 3003	Weber, F. N., Jr.	13	1082
LERC	Triner, J. E.	UNIV OF SO FLORIDA	NSG 3096	Garrett, S. J.	45	1950
LERC	Dorsch, R. G.	UNIV OF SOUTHERN CAL	NAS 3-17857	Laufer, J.	41	1705
LERC	Olsen, W. A.	UNIV OF SOUTHERN CAL	NSG 3025	Laufer, J.	41	1718
LERC	Chubb, D. L.	UNIV SOUTHWESTERN LA	NSG 3049	Matese, J. J.	13	2265
LERC	Dittmar, J. H.	UNIV TENNESSEE-KNOXV	NGR 43-001-134	Lunsdaine, E.	41	3340
LERC	Reshotko, M.	UNIV TENNESSEE-KNOXV	NGR 43-001-135	Maus, J. R.	41	3341
LERC	Fralich, R. W.	UNIV TEXAS-AUSTIN	NSG 1268	Craig, R. R.	49	3509
LERC	Roth, J. R.	UNIV TEXAS-AUSTIN	NSG 3089	Powers, E. J.	45	3512
LERC	Ramler, J. R.	UNIV OF TOLEDO	NAS 3-17826	Leininger, G. G.	49	3151
LERC	Willoh, R. G.	UNIV OF TOLEDO	NGR 36-010-024	Leininger, G. G.	49	3153
LERC	Lehtinen, B.	UNIV OF TOLEDO	NSG 3063	Leininger, G. G.	45	3155
LERC	Lehtinen, B.	UNIV OF TOLEDO	NSG 3084	Leininger, G. G.	45	3156
LERC	Connolley, D. J.	UNIV OF TOLEDO	NSG 3099	Rush, W. F.	13	3157
LERC	Lad, R. A.	UNIV OF WASHINGTON	NGL 48-002-004	Mueller, J. I.	47	3743
LERC	Baumeister, K. J.	VIRGINIA POLY INST	NAS 3-18553	Robertson, R. A.	49	3692
LERC	Diedrich, J. H.	VIRGINIA POLY INST	NSG 3073	Jakubowski, A. K.	41	3731
LERC	Dunning, J. W., Jr.	WAYNE STATE UNIV	NGR 23-006-063	Wang, E. Y.	45	2608
LERC	Brandhorst, H. W., Jr.	WAYNE STATE UNIV	NSG 3014	Wang, E. Y.	13	2610

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
LERC	Dunning, J. W., Jr.	WAYNE STATE UNIV	NSG 3035	Yu, F. T.	45	2611
LERC	Brandhorst, H. W., Jr.	WAYNE STATE UNIV	NSG 3081	Wang, E. Y.	13	2612
LERC	Phillips, B.	WEST VIRGINIA UNIV	NAS 3-19725	Wen, C. Y.	49	3767
LERC	Rice, E. J.	WICHITA STATE UNIV	NGR 17-003-018	Eversman, W.	13	2216
LERC	Hsu, L. C.	WILBERFORCE UNIV	NSG 3067	Stickney, P. B.	12	3162
LERC	Baker, C. E.	YORK UNIVERSITY	NGR 52-134-005	Schiff, H. I.	31	3817
LERC	Morris, J. F.	OREGON GRADUATE CTR	NSG 3054	Swanson, L. W.	47	3179
MSFC	Downs, S. W., Jr.	ALABAMA A&M UNIV	NGR 01-001-023	Sharma, G. C.	51	1002
MSFC	McDonough, G. F.	ALABAMA A&M UNIV	NGR 01-001-025	Manger, M. C.	39	1003
MSFC	Parnell, T. A.	ALABAMA A&M UNIV	NSG 8001	George, M. C.	11	1004
MSFC	Kurtz, R. L.	ALABAMA A&M UNIV	NSG 8011	Lee, C. T.	13	1005
MSFC	Lowrey, D. O.	ALABAMA A&M UNIV	NSG 8013	Weather, G. D.	45	1006
MSFC	Gross, K. W.	ALABAMA A&M UNIV	NSG 8022	Saha, H.	13	1007
MSFC	Bannister, T. C.	ALABAMA A&M UNIV	NSG 8033	Lal, R. B.	13	1008
MSFC	Jeffreys, H. B.	ALABAMA A&M UNIV	NSG 8037	Murty, S. S.	13	1009
MSFC	Humphries, W. R.	ALABAMA A&M UNIV	NSG 8041	Saha, H.	46	1010
MSFC	Taylor, K. R.	ALFRED UNIVERSITY	NAS 8-31711	Lacourse, W. C.	19	2843
MSFC	Falls, L. W.	APPALACHIAN STATE U	NAS 8-29286	Kitchens, H.	21	3043
MSFC	Jex, D. W.	ATHENS COLLEGE	NAS 8-28058	McNutt, R. C.	13	1011
MSFC	Zwiener, J. M.	ATHENS COLLEGE	NAS 8-30561	McNutt, R. C.	13	1012
MSFC	Moore, W. W., Jr.	ATHENS COLLEGE	NAS 8-30880	Martin, A. M., III	13	1013
MSFC	Arnett, G. M.	ATHENS COLLEGE	NAS 8-31731	Workman, G. L.	12	1014
MSFC	Curry, J. E.	ATLANTA UNIVERSITY	NSG 8019	Reed, J. L.	12	1952
MSFC	Emens, F. H.	AUBURN UNIV-AUBURN	NAS 8-20765	Irwin, J. D.	45	1015
MSFC	White, J. B.	AUBURN UNIV-AUBURN	NAS 8-26930	Carroll, B. D.	45	1016
MSFC	Craighead, P. T.	AUBURN UNIV-AUBURN	NAS 8-29852	Boland, J. S., III	49	1017
MSFC	Downs, S. W., Jr.	AUBURN UNIV-AUBURN	NAS 8-29856	Hagler, T. B.	51	1018
MSFC	McKannan, E. C.	AUBURN UNIV-AUBURN	NAS 8-29881	Vachon, R. I.	72	1019
MSFC	Duncan, J. R., Jr.	AUBURN UNIV-AUBURN	NAS 8-30248	Bennett, A. G.	41	1020
MSFC	Cummings, R. E.	AUBURN UNIV-AUBURN	NAS 8-30654	Vachon, R. I.	21	1021
MSFC	Gould, J. M.	AUBURN UNIV-AUBURN	NAS 8-31190	Carroll, B. D.	45	1022
MSFC	Keer, J. H.	AUBURN UNIV-AUBURN	NAS 8-31223	Pinson, L. J.	45	1023
MSFC	Matheney, J. L.	AUBURN UNIV-AUBURN	NAS 8-31572	Carroll, B. D.	45	1024
MSFC	Shackelford, B. W.	AUBURN UNIV-AUBURN	NCA 8-106	Sforzini, R. H.	12	1025
MSFC	Shackelford, B. W.	AUBURN UNIV-AUBURN	NCA 8-108	Sforzini, R. H.	43	1026
MSFC	Cook, L. J.	AUBURN UNIV-AUBURN	NCA 8-109	Bell, L.	21	1027
MSFC	Shackleford, B. W.	AUBURN UNIV-AUBURN	NCA 8-120	Sforzini, R. H.	43	1028
MSFC	Shackleford, B. W.	AUBURN UNIV-AUBURN	NCA 8-124	Sforzini, R. H.	43	1029
MSFC	Hastings, L. J.	BALL STATE UNIVERSTY	NCA 8-101	Cosby, R. M.	13	2098
MSFC	Hastings, L. J.	BALL STATE UNIVERSTY	NCA 8-103	Cosby, R. M.	13	2099
MSFC	Hastings, L. J.	BALL STATE UNIVERSTY	NCA 8-121	Cosby, R. M.	49	2100
MSFC	Kent, M. I.	BENDEDICT COLLEGE	NSG 8004	Kinard, J. T.	12	3303
MSFC	Krome, H. O.	CALIF INST OF TECH	NAS 8-27978	Stone, E. C.	11	1198
MSFC	Gross, L. A.	CALIF INST OF TECH	NAS 8-29313	Acosta, A. J.	46	1199
MSFC	Schafer, C. F.	CASE WESTERN RESERVE	NAS 8-31802	Ostrach, S.	46	3079
MSFC	Bannister, T. C.	CASE WESTERN RESERVE	NAS 8-31907	Ostrach, S.	12	3080
MSFC	Tatler, K. R.	CLARKSON COL OF TECH	NAS 8-31708	Cole, R.	19	2859
MSFC	Taylor, K. R.	CLARKSON COL OF TECH	NAS 8-31709	Wilcox, W. R.	19	2860
MSFC	Turner, R. E.	COLORADO STATE UNIV	NAS 8-28590	Sadeh, W. Z.	39	1725
MSFC	Cliff, W. C.	COLORADO STATE UNIV	NAS 8-29583	Cermak, J. E.	44	1726
MSFC	Berge, L. H.	COLORADO STATE UNIV	NAS 8-30250	Jones, T. B.	45	1727
MSFC	Cliff, W. C.	COLORADO STATE UNIV	NAS 8-31237	Winn, C. B.	46	1728
MSFC	Fichtl, G. H.	COLORADO STATE UNIV	NAS 8-31347	Winn, C. B.	49	1729
MSFC	Fichtl, G. H.	COLORADO STATE UNIV	NAS 8-31673	Edwards, H. W.	46	1730
MSFC	Fichtl, G. H.	COLORADO STATE UNIV	NAS 8-31688	Sandhorn, V. A.	44	1731
MSFC	Manning, H. S.	COLUMBIA UNIVERSITY	NAS 8-30753	Novick, R.	11	2872
MSFC	Nerren, B. H.	CORNELL UNIV-MED CTR	NAS 8-31513	Rubin, A. L.	99	2938
MSFC	Paludan, C. T.	DILLARD UNIVERSITY	NSG 8018	Rogers, R.	39	2237

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
MSFC	Hill, K.	DREXEL UNIVERSITY	NAS 8-31235	Kreitzberg, C. W.	31	3206
MSFC	Kroes, R. L.	FISK UNIVERSITY	NGR 43-021-002	Silberman, E.	13	3317
MSFC	Parnell, T. A.	FISK UNIVERSITY	NSG 8007	Neugebauer, G.	13	3318
MSFC	Parnell, T. A.	FISK UNIVERSITY	NSG 8035	Mickens, R. E.	12	3319
MSFC	Eudy, R. G.	GEORGIA INST OF TECH	H-23602B	Brown, J.	47	1958
MSFC	Kerr, J. H.	GEORGIA INST OF TECH	NAS 8-30246	Callen, W. R.	13	1969
MSFC	Kerr, J. H.	GEORGIA INST OF TECH	NAS 8-30534	Shackelford, R. G.	99	1970
MSFC	Bianca, C. J.	GEORGIA INST OF TECH	NAS 8-30617	Hanagud, S. V.	19	1971
MSFC	Paludan, C. T.	GEORGIA INST OF TECH	NAS 8-30653	Dees, J. W.	39	1972
MSFC	Smith, O. E.	GEORGIA INST OF TECH	NAS 8-30657	Justus, C. G.	49	1973
MSFC	Huggins, C. T.	GEORGIA INST OF TECH	NAS 8-30919	Walsh, J. R.	21	1974
MSFC	Kerr, J. H.	GEORGIA INST OF TECH	NAS 8-31193	Callen, W. R.	13	1975
MSFC	Smith, H.	GEORGIA INST OF TECH	NAS 8-31344	Walsh, J. R.	13	1976
MSFC	Downs, S. W., Jr.	GEORGIA INST OF TECH	NAS 8-31850	Faust, N. L.	39	1977
MSFC	Downs, S. W., Jr.	GEORGIA INST OF TECH	NAS 8-31990	Faust, C. E.	32	1978
MSFC	Bensko, J.	GEORGIA SOUTHWTN COL	NAS 8-30884	Arden, D. D.	32	2000
MSFC	Kroes, R. L.	GRAMBLING STATE UNIV	NGR 19-011-016	Murty, A. N.	13	2240
MSFC	Chappell, C. R.	GRAMBLING STATE UNIV	NSG 8034	Cummings, W. D.	13	2241
MSFC	Unavailable	HARVARD UNIVERSITY	NAS 5-3949	Goldberg, L.	11	2381
MSFC	Snoddy, W. C.	HARVARD UNIVERSITY	NAS 8-31374	Vaiana, G. S.	13	2388
MSFC	Bordelon, C. S.	HARVARD UNIVERSITY	NAS 8-31549	Noyes, R. W.	13	2389
MSFC	Schafer, C. F.	HOWARD UNIVERSITY	NAS 8-30252	Ukanwa, A. O.	13	1876
MSFC	Wolverton, B. C.	JACKSON STATE UNIV	NGR 25-011-005	Sekhon, B. S.	39	2653
MSFC	Wolverton, B. C.	JACKSON STATE UNIV	NSG 8015	Perkins, J.	39	2655
MSFC	Wolverton, B. C.	JACKSON STATE UNIV	NSG 8023	Sekhon, B. S.	39	2656
MSFC	Roberts, W. T.	JOHNS HOPKINS UNIV	NAS 8-31413	Feldman, P. D.	31	2281
MSFC	Patterson, W. J.	KENTUCKY STATE UNIV	NSG 8008	Marano, G. A.	12	2223
MSFC	Bond, J. B.	LEHIGH UNIVERSITY	NAS 8-28654	Vander Hoff, J. W.	47	3211
MSFC	Taylor, K. R.	LEHIGH UNIVERSITY	NAS 8-31706	Vander Hoff, J. W.	19	3212
MSFC	Taylor, K. K.	LEHIGH UNIVERSITY	NAS 8-31707	Micale, E. J.	19	3213
MSFC	Cliff, W. C.	LEHIGH UNIVERSITY	NCA 8-123	Poehlein, G. W.	12	3215
MSFC	Hamby, H. G.	LA STATE U-BAT ROUGE	NAS 8-30380	Farmer, R. C.	13	2243
MSFC	Paludan, C. T.	LA STATE U-BAT ROUGE	NAS 8-30620	Maples, D.	39	2244
MSFC	Bodie, W. G.	MASS INST OF TECH	NAS 8-27972	Bradt, H. V.	11	2431
MSFC	Jordan, W. E.	MASS INST OF TECH	NAS 8-27975	Lewin, W. H.	11	2432
MSFC	Decker, R.	MASS INST OF TECH	NAS 8-30301	Boyd, P.	13	2433
MSFC	Davidson, M. C.	MASS INST OF TECH	NAS 8-30537	Gatos, H. C.	47	2434
MSFC	Adams, W. R.	MASS INST OF TECH	NAS 8-30576	Gatos, H. C.	19	2435
MSFC	Manning, H. S.	MASS INST OF TECH	NAS 8-30752	Clark, G. W.	11	2436
MSFC	Fichti, G. H.	MASS INST OF TECH	NAS 8-31149	Hart, J. E.	32	2437
MSFC	Chassay, R. P.	MASS INST OF TECH	NAS 8-31350	Uhlmann, D. R.	47	2438
MSFC	Reeves, F. A.	MASS INST OF TECH	NAS 8-31552	Hopper, R. W.	47	2439
MSFC	Dalins, I.	MASS INST OF TECH	NGL 22-009-125	Gatos, H. C.	13	2449
MSFC	Patterson, W. C.	MEMPHIS ST UNIV	NAS 8-31189	Perry, E.	46	3320
MSFC	Hollis, B. R., Jr.	MISSISSIPPI STATE U	NAS 8-26749	Gassaway, J. D.	13	2659
MSFC	Pitts, E. H.	MISSISSIPPI STATE U	NAS 8-30618	Rogers, T. W.	45	2660
MSFC	Daniels, J. L., Jr.	MISSISSIPPI STATE U	NAS 8-30623	Miller, W. F.	39	2661
MSFC	Smith, H. F.	MISSISSIPPI STATE U	NAS 8-31373	Ingels, F. M.	45	2662
MSFC	Guynes, B. U.	MISSISSIPPI STATE U	NAS 8-31568	Mitchell, G.	41	2663
MSFC	Clever, W. W.	MISSISSIPPI STATE U	NAS 8-31770	Shepard, W. S.	41	2664
MSFC	King, H. M.	MISSISSIPPI STATE U	NCA 8-107	Hall, W. B.	47	2667
MSFC	Wolverton, B. C.	MISS VALLEY ST UNIV	NSG 8009	Sethi, S. L.	51	2678
MSFC	Stephens, J. B.	MOREHOUSE COLLEGE	NGL 11-008-001	Gales, J. N.	12	2002
MSFC	Shriver, E. L.	MOREHOUSE COLLEGE	NSG 8014	Spight, C.	13	2004
MSFC	Stone, N. H.	MOREHOUSE COLLEGE	NSG 8020	Turner, J. M.	13	2005
MSFC	Clemons, J. M.	MOREHOUSE COLLEGE	NSG 8030	Frazier, D. O.	12	2006
MSFC	Williams, J. R.	MOREHOUSE COLLEGE	NSG 8039	Spight, C.	13	2007
MSFC	Patterson, W. J.	MORRIS BROWN COLLEGE	NSG 8027	Weaver, F.	12	2008

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
MSFC	Paludan, C. T.	NO CAROLINA STATE U	NAS 8-31984	Welby, G.	39	3058
MSFC	Downs, S. W., Jr.	NORTH GEORGIA COL	NAS 8-30619	Biesbrock, J. A.	51	2009
MSFC	Kent, M. I.	OAKWOOD COLLEGE	NSG 8017	Richardson, D.	12	1033
MSFC	Costes, N. C.	OHIO STATE UNIV	NAS 8-31195	Mueller, I. I.	19	3116
MSFC	Bannister, T. C.	PAINE COLLEGE	NSG 8002	Owais, M.	13	2010
MSFC	Fichtl, G. H.	PENN STATE U-UNIV PK	NAS 8-21140	Blackadar, A. K.	31	3233
MSFC	Fichtl, G. H.	PENN STATE U-UNIV PK	NAS 8-27334	Long, S. R.	31	3234
MSFC	Davidson, M. C.	RENSSELAER POLY-NY	NAS 8-26146	Wiedmann, H.	47	2971
MSFC	Adams, W. R.	RENSSELAER POLY-NY	NAS 8-28307	Wiedemeier, H.	19	2972
MSFC	Adams, W. R.	RENSSELAER POLY-NY	NAS 8-30578	Wiedemeier, H.	19	2973
MSFC	Snyder, R. S.	RENSSELAER POLY-NY	NAS 8-31705	MacCrone, R. K.	19	2974
MSFC	Roberts, W. T.	RICE UNIVERSITY	NAS 8-31679	Anderson, H. R., Jr.	13	3385
MSFC	Berge, L. H.	RICE UNIVERSITY	NAS 8-32030	Margrave, J. L.	13	3386
MSFC	Urban, E. W.	SO CAROLINA ST COL	NSG 8021	Payne, J. E.	13	3308
MSFC	Kent, M. I.	SO UNIV-BATON ROUGE	NGR 19-005-003	Liu, K. H.	19	2250
MSFC	Trenkle, J. J.	SO UNIV-BATON ROUGE	NSG 8016	Scott, R. L., Jr.	13	2254
MSFC	Williamson, J. G.	SO UNIV-BATON ROUGE	NSG 8025	Frederick, D. K.	46	2255
MSFC	Trenkle, J. J.	SO UNIV-BATON ROUGE	NSG 8028	Anderson, J. A.	45	2256
MSFC	Trenkle, J. J.	SO UNIV-BATON ROUGE	NSG 8029	Scott, R. L., Jr.	46	2257
MSFC	Bass, B. G.	STANFORD UNIVERSITY	NAS 8-31571	Walker, A. B., Jr.	13	1346
MSFC	Roberts, W. T.	STANFORD UNIVERSITY	NAS 8-31769	Da Rosa, A. V.	13	1347
MSFC	Potter, R. A.	STANFORD UNIVERSITY	NGR 05-020-019	Fairbank, W. M.	13	1395
MSFC	Gary, G. A.	STATE UNIV NY-ALBANY	NAS 8-30251	Weinberg, J. L.	13	2989
MSFC	Weinberg, J. L.	STATE UNIV NY-ALBANY	NAS 8-31902	Schuerman, D. W.	39	2990
MSFC	Gary, G. A.	STATE UNIV NY-ALBANY	NSG 8040	Weinberg, J. L.	11	2996
MSFC	Allen, R. E.	STATE UNIV NY-BUFFAL	NAS 8-31292	Bigazzi, P. E.	51	2998
MSFC	Van Vleck, E.	STATE UNIV NY-BUFFAL	NAS 8-31434	Jain, A. K.	21	2999
MSFC	Dalins, I.	TALLADEGA COLLEGE	NGR 01-007-009	Breecher, J.	13	1034
MSFC	Humphries, W. R.	TENNESSEE STATE UNIV	NSG 8012	Heugton, R.	46	3323
MSFC	Cliff, W. C.	TENNESSEE STATE UNIV	NSG 8032	Busby, M. R.	46	3324
MSFC	Kadrmas, K. A.	TENNESSEE TECH U	NAS 8-31252	Childress, R. Q.	45	3325
MSFC	Humphries, W. R.	TENNESSEE TECH U	NAS 8-31564	Griggs, E. I.	31	3326
MSFC	Humphries, W. R.	TENNESSEE TECH U	NCA 8-102	Griggs, E. I.	45	3327
MSFC	Nowakowski, M. F.	TEXAS A&M UNIVERSITY	NAS 8-26379	Porter, W. A.	45	3410
MSFC	Turner, R. E.	TEXAS A&M UNIVERSITY	NAS 8-26751	Scoggins, J. R.	31	3411
MSFC	Fichtl, G. H.	TEXAS A&M UNIVERSITY	NAS 8-29582	Brundidge, K. C.	31	3412
MSFC	Fichtl, G. H.	TEXAS A&M UNIVERSITY	NAS 8-29764	Scoggins, J. R.	31	3413
MSFC	Fichtl, G. H.	TEXAS A&M UNIVERSITY	NAS 8-31234	Brundidge, K. C.	31	3414
MSFC	Key, J. E.	TEXAS A&M UNIVERSITY	NAS 8-31332	Strickland, J. A.	21	3415
MSFC	Hill, C. K.	TEXAS A&M UNIVERSITY	NAS 8-31773	Scoggins, J. R.	31	3416
MSFC	Crowell, C. S.	TUSKEGEE INSTITUTE	NSG 8003	Doreswamy, C. V.	45	1038
MSFC	Young, L. E.	TUSKEGEE INSTITUTE	NSG 8038	Doreswamy, C. V.	45	1039
MSFC	Parnell, T. A.	UNIV ALA-HUNTSVILLE	NAS 8-24908	Hiser, H. W.	11	1041
MSFC	Parnell, T. A.	UNIV ALA-HUNTSVILLE	NAS 8-24953	Gregory, J. C.	13	1042
MSFC	Lacy, L. L.	UNIV ALA-HUNTSVILLE	NAS 8-27809	Otto, G. H.	47	1043
MSFC	Hagyard, M. J.	UNIV ALA-HUNTSVILLE	NAS 8-28097	Wu, S. T.	13	1044
MSFC	Swenson, G. R.	UNIV ALA-HUNTSVILLE	NAS 8-28248	Hermann, R.	42	1045
MSFC	Adams, W. R.	UNIV ALA-HUNTSVILLE	NAS 8-28304	Walter, H. U.	19	1046
MSFC	Urban, E. W.	UNIV ALA-HUNTSVILLE	NAS 8-29316	Hendricks, J. B.	99	1047
MSFC	Swenson, G. R.	UNIV ALA-HUNTSVILLE	NAS 8-29543	Wu, S. T.	13	1048
MSFC	Smith, R. E.	UNIV ALA-HUNTSVILLE	NAS 8-30247	Hung, R. J.	31	1049
MSFC	Chappell, C. R.	UNIV ALA-HUNTSVILLE	NAS 8-30563	Smalley, L. L.	13	1050
MSFC	Morton, R. R.	UNIV ALA-HUNTSVILLE	NAS 8-30772	Rossing, L. M.	51	1051
MSFC	Zwiener, J. M.	UNIV ALA-HUNTSVILLE	NAS 8-30774	Castle, J. G., Jr.	47	1052
MSFC	Gravette, M. C.	UNIV ALA-HUNTSVILLE	NAS 8-30885	Schroer, B. J.	39	1053
MSFC	Morton, R. R.	UNIV ALA-HUNTSVILLE	NAS 8-31169	Grohse, E. W.	44	1054
MSFC	Parnell, T. A.	UNIV ALA-HUNTSVILLE	NAS 8-31170	Gregory, J. C.	13	1055
MSFC	West, G. S., Jr.	UNIV ALA-HUNTSVILLE	NAS 8-31171	Hung, R. J.	39	1056

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
MSFC	Detko, G. J.	UNIV ALA-HUNTSVILLE	NAS 8-31174	Luttges, W. E.	19	1057
MSFC	Teuber, D. L.	UNIV ALA-HUNTSVILLE	NAS 8-31194	Knezovich, F. M.	13	1058
MSFC	Bowden, D. R.	UNIV ALA-HUNTSVILLE	NAS 8-31293	Christiensen, D.	13	1059
MSFC	Smith, R. E.	UNIV ALA-HUNTSVILLE	NAS 8-31321	Hung, R. J.	31	1060
MSFC	Bensko, J.	UNIV ALA-HUNTSVILLE	NAS 8-31345	Doyle, L.	32	1061
MSFC	Vaughan, O. H.	UNIV ALA-HUNTSVILLE	NAS 8-31729	Hung, R. J.	13	1062
MSFC	Lacy, L. L.	UNIV ALA-HUNTSVILLE	NAS 8-31768	Otto, G. H.	46	1063
MSFC	Fishman, G. J.	UNIV ALA-HUNTSVILLE	NAS 8-31895	Gregory, J. C.	13	1064
MSFC	Emens, F. H.	UNIV ALA-TUSCALOOSA	NAS 8-20172	Houts, R. C.	45	1069
MSFC	Randall, J. L.	UNIV ALA-TUSCALOOSA	NAS 8-25562	Webb, W. E.	31	1070
MSFC	Bannister, T. C.	UNIV ALA-TUSCALOOSA	NAS 8-28098	Miyagawa, I.	13	1071
MSFC	Morton, R. R.	UNIV ALA-TUSCALOOSA	NAS 8-29130	April, G. C.	49	1072
MSFC	Schafer, C. F.	UNIV ALA-TUSCALOOSA	NAS 8-29494	De Smet, D. J.	13	1073
MSFC	Bensko, J.	UNIV ALA-TUSCALOOSA	NAS 8-29936	Hughes, T. H.	32	1074
MSFC	Bensko, J.	UNIV ALA-TUSCALOOSA	NAS 8-29937	Stow, S. H.	32	1075
MSFC	Moore, W. W., Jr.	UNIV ALA-TUSCALOOSA	NAS 8-30479	Liu, H. K.	13	1076
MSFC	Schutzenhofer, L. A.	UNIV ALA-TUSCALOOSA	NAS 8-30624	Doughty, J. O.	46	1077
MSFC	Digesu, F. E.	UNIV ALA-TUSCALOOSA	NAS 8-30886	Ainsworth, O. R.	21	1078
MSFC	Miller, E. R.	UNIV ALA-TUSCALOOSA	NAS 8-31343	Fay, T. D.	11	1079
MSFC	Bensko, J.	UNIV ALA-TUSCALOOSA	NAS 8-31979	Hughes, T.	13	1080
MSFC	Roberts, W. T.	UNIV ALASKA-FAIRBNKS	NAS 8-31801	Davis, T. N.	19	1087
MSFC	Kurtz, R. L.	UNIV OF ARIZONA	NAS 8-28661	Jacobs, S. F.	13	1107
MSFC	Allen, R. E.	UNIV OF ARIZONA	NAS 8-29566	Bier, M.	13	1108
MSFC	Miller, E. R.	UNIV OF ARIZONA	NAS 8-31192	Sonett, C. P.	11	1109
MSFC	Miller, E. R.	UNIV OF ARIZONA	NAS 8-31196	Sonett, C. P.	11	1110
MSFC	Allen, R. E.	UNIV OF ARIZONA	NAS 8-31537	Bier, M.	47	1111
MSFC	Harwell, R. J.	UNIV OF ARIZONA	NAS 8-31948	Bartels, P. H.	51	1112
MSFC	Falls, L. W.	UNIV ARKANSAS-FAYETV	NAS 8-31550	Carter, M. C.	31	1175
MSFC	Huffaker, R. M.	UNIV ARKANSAS-FAYETV	NAS 8-31771	Skeith, R. W.	31	1176
MSFC	Ondrak, B. T.	UNIV CALIF-BERKELEY	NAS 8-29603	Price, P. B.	13	1448
MSFC	Roberts, W. T.	UNIV CALIF-BERKELEY	NAS 8-31346	Mozel, F. S.	19	1449
MSFC	Adams, W. R.	UNIV CALIF-L ANGELES	NAS 8-28310	Yue, A. S.	19	1542
MSFC	Seltzer, S. M.	UNIV CALIF-L ANGELES	NAS 8-28358	Likins, P. W.	49	1543
MSFC	Adams, W. R.	UNIV CALIF-L ANGELES	NAS 8-30579	Yue, A. S.	19	1544
MSFC	Taylor, K. R.	UNIV CALIF-L ANGELES	NAS 8-31710	Bunshah, R. F.	19	1545
MSFC	Jordan, W. E.	UNIV CALIF-SAN DIEGO	NAS 8-27974	Peterson, L. E.	11	1602
MSFC	Fountain, W. F.	UNIV CALIF-SAN DIEGO	NAS 8-28015	Hudson, H. S.	11	1603
MSFC	Chappell, C. R.	UNIV CALIF-SAN DIEGO	NAS 8-31145	McIlwain, C. E.	13	1604
MSFC	Roberts, W. T.	UNIV CALIF-SAN DIEGO	NAS 8-31839	Banks, P. M.	13	1605
MSFC	Bass, B. G.	UNIV COLORADO-BOLDR	NAS 8-31378	Dulk, G. A.	13	1769
MSFC	Holland, W. B.	UNIV COLORADO-BOLDR	NAS 8-31619	Feng, C. C.	46	1770
MSFC	Fichtl, G. H.	UNIV COLORADO-BOLDR	NAS 8-31958	Toomre, J.	39	1771
MSFC	Camp, D. W.	UNIV OF DAYTON	NAS 8-31294	Leurs, J. K.	41	3150
MSFC	Schell, J. T.	UNIV OF FLORIDA	NAS 8-20247	Patterson, E. P.	12	1917
MSFC	Taylor, K. R.	UNIV OF FLORIDA	NSG 8031	Goldberg, E. P.	19	1934
MSFC	Clingman, J. H.	UNIV OF GEORGIA	NAS 8-31565	Burkhard, D. G.	13	2013
MSFC	Palupan, C. T.	UNIV OF KENTUCKY	NAS 8-31006	Graves, D. H.	39	2225
MSFC	Gross, L. A.	UNIV OF LOUISVILLE	NAS 8-31233	Childs, D. W.	42	2233
MSFC	Devries, L. L.	UNIV MICH-ANN ARBOR	NAS 8-30625	Stedman, D. H.	31	2569
MSFC	Roberts, W. T.	UNIV MICH-ANN ARBOR	NAS 8-31397	Nagy, A. F.	19	2570
MSFC	Roberts, W. T.	UNIV MICH-ANN ARBOR	NAS 8-31772	Samir, U.	31	2571
MSFC	Shriver, E. L.	UNIV MICH-ANN ARBOR	NAS 8-31987	Carignan, G. R.	19	2572
MSFC	Krome, H. O.	U MINN-MNPLS-ST PAUL	NAS 8-27977	Waddington, C. J.	11	2624
MSFC	Roberts, W. T.	U MINN-MNPLS-ST PAUL	NAS 8-31510	Winckler, J. R.	13	2625
MSFC	Smith, R. E.	UNIV MO-COLUMBIA	NAS 8-31150	Plummer, P. L.	31	2690
MSFC	Paludan, C. T.	UNIV MO-COLUMBIA	NAS 8-31767	Barr, P. J.	39	2691
MSFC	Smith, R. E.	UNIV MO-COLUMBIA	NAS 8-31849	Dunipace, K. R.	31	2692
MSFC	Smith, R. E.	UNIV MO-ROLLA	NAS 8-31538	Stampfer, J. F., Jr.	13	2696

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
MSFC	Johnston, J. D.	UNIV NEBRASKA-LINCLN	NAS 8-31897	Kersten, L.	46	2724
MSFC	Smith, R. E.	UNIV NEVADA-DRI	NAS 8-31470	Squires, P.	31	2728
MSFC	Schrick, B. J.	UNIV NEVADA-DRI	NAS 8-31776	Squires, P.	31	2729
MSFC	Smith, R. E.	UNIV OF NEVADA-RENO	NAS 8-31441	Telford, J. W.	19	2731
MSFC	Smith, R. E.	UNIV OF NEVADA-RENO	NAS 8-31780	Squires, P.	31	2732
MSFC	Parnell, T. A.	UNIV N CAR-CHPL HILL	NAS 8-26601	Childs, C. B.	13	3074
MSFC	Turner, R. E.	UNIV OKLAHOMA-NORMAN	NAS 8-31333	Inman, R. L.	31	3173
MSFC	Camp, D. W.	UNIV OKLAHOMA-NORMAN	NAS 8-31377	Inman, R. L.	31	3174
MSFC	Allen, R. E.	UNIV ORGEON-HLTH CTR	NAS 8-30887	Knox, R. J.	51	3192
MSFC	Harwell, R. J.	UNIV ORGEON-HLTH CTR	NAS 8-31386	Brooks, D. E.	59	3193
MSFC	Ives, R. E.	UNIV ORGEON-HLTH CTR	NAS 8-31899	Brooks, D. E.	51	3194
MSFC	Taylor, K. R.	UNIV OF PENNSYLVANIA	NAS 8-31702	Zemel, J. N.	19	3265
MSFC	Taylor, K. R.	UNIV OF PITTSBURGH	NAS 8-31703	Cassidy, W. A.	19	3272
MSFC	Parnell, T. A.	UNIV SAN FRANCISCO	NAS 8-26758	Benton, E. V.	13	1665
MSFC	Seltzer, S. M.	UNIV OF SANTA CLARA	NAS 8-27799	Siljak, D. D.	49	1674
MSFC	Lowrey, D. O.	UNIV SO CAROLINA-COL	NAS 8-28660	Fellers, R. G.	45	3309
MSFC	Caruso, S. V.	UNIV OF SO FLORIDA	NAS 8-31172	Sergent, J.	45	1948
MSFC	Ruff, R. C.	UNIV OF SOUTHERN CAL	NAS 8-29847	Wilcox, W. R.	13	1707
MSFC	Hertsgaard, H. B.	UNIV TENNESSEE-KNOXV	NAS 8-27296	Kennedy, E. J.	42	3330
MSFC	Huggins, C. T.	UNIV TENNESSEE-KNOXV	NAS 8-29271	Gonzalez, R. C.	45	3331
MSFC	Fichtl, G. H.	UNIV TENNESSEE-KNOXV	NAS 8-29584	Frost, W.	46	3332
MSFC	Ellsworth, D. J.	UNIV TENNESSEE-KNOXV	NAS 8-29632	Hung, J. C.	46	3333
MSFC	Escue, W. T.	UNIV TENNESSEE-KNOXV	NAS 8-31143	Rehder, J. B.	39	3334
MSFC	Hill, K.	UNIV TENNESSEE-KNOXV	NAS 8-31718	Frost, W.	31	3335
MSFC	Paludan, C. T.	UNIV TENNESSEE-KNOXV	NAS 8-31980	Shahroki, F.	39	3336
MSFC	Fichtl, G. H.	UNIV TENNESSEE-KNOXV	NAS 8-32118	Frost, W.	31	3337
MSFC	Williams, J. R.	UNIV TEXAS-AUSTIN	NAS 8-31459	Henize, K.	11	3483
MSFC	Key, J. E.	UNIV TEXAS-AUSTIN	NAS 8-31566	Dunham, R. B.	21	3484
MSFC	Chappell, C. R.	UNIV TEXAS-DALLAS	NAS 8-31775	Hanson, W. B.	19	3525
MSFC	Hall, A. J., Jr.	UNIV OF TOLEDO	NAS 8-31681	Delsemme, A. H.	13	3152
MSFC	Patterson, W. J.	UNIV OF UTAH	NAS 8-30253	Andrade, J. D.	12	3561
MSFC	Williams, J. R.	UNIV WISC-MADISON	NAS 8-28733	Heine, R. W.	47	3785
MSFC	Odell, C. R.	UNIV WISC-MADISON	NAS 8-29387	Code, A. D.	11	3786
MSFC	Schrick, B. J.	UNIV OF WYOMING	NAS 8-32067	Vali, G.	31	3811
MSFC	Nichols, R. L.	VANDERBILT UNIVERSTY	NAS 8-30656	Kinser, D. L.	13	3352
MSFC	Caruso, S. V.	VANDERBILT UNIVERSTY	NAS 8-30883	Kinser, D. L.	47	3353
MSFC	Yates, I. C., Jr.	WASHINGTON ST UNIV	NAS 8-29725	Johnson, A. A.	47	3764
MSFC	Krome, H. O.	WASHINGTON UNIVERSTY	NAS 8-27976	Israel, M. H.	11	2798
MSFC	Allen, R. E.	WAYNE STATE UNIV	NAS 8-29823	Brown, R. K.	47	2607
NSTL	Wolverton, B. C.	ALCORN STATE UNIV	NSG 8005	Naqvi, S. M.	39	2651
NSTL	Wolverton, B. C.	ALCORN STATE UNIV	NSG 8036	Latif, A.	51	2652
NSTL	Wolverton, B. C.	JACKSON STATE UNIV	NSG 8026	Shore, F.	39	2657
NSTL	Joyce, A. T.	JACKSON STATE UNIV	NSG 9016	Nelson, F. R.	39	2658
NSTL	Rusoff, L. L.	LA STATE U-BAT ROUGE	NAS13-38	Wolverton, V. C.	59	2245
NSTL	Montgomery, W. D.	MISSISSIPPI STATE U	NAS13-10	Forbes, R. E.	49	2665
NSTL	Unavailable	MISSISSIPPI STATE U	NAS13-21	Unavailable	59	2666
NSTL	Stocks, P.	UNIV SO MISSISSIPPI	NAS13-23	Wolverton, V. C.	51	2680
WFC	Rossi, L. C.	CITY COLLEGE OF N Y	NAS 6-2439	Pierson, W. J.	32	2848
WFC	Stanley, H. R.	COLUMBIA UNIVERSITY	NAS 6-2455	Kuo, J. T.	33	2870
WFC	Stanley, H. R.	COLUMBIA UNIVERSITY	NAS 6-2519	Talwani, M.	32	2871
WFC	Holland, A. C.	DC TEACHERS COLLEGE	NGR 09-053-002	Curtis, W. C.	19	1844
WFC	Holland, A. C.	DC TEACHERS COLLEGE	NSG 6003	Curtis, W. C.	19	1846
WFC	Holland, A. C.	DREXEL UNIVERSITY	NSG 6007	Brandy, A. R.	31	3209
WFC	Milliner, J. B.	ESTRN SHORE CMTY COL	NAS 6-2707	Unavailable	99	3591
WFC	Kim, H. H.	HAMPTON INSTITUTE	NGR 47-020-006	Trehan, A. K.	19	3595
WFC	Stanley, H. R.	JOHNS HOPKINS UNIV	NAS 6-2706	Phillips, O. M.	33	2280
WFC	West, W. W.	NEW MEX ST U-LAS CR	NAS 6-2686	Gammill, B. G.	46	2904
WFC	Stanley, H. R.	NO CAROLINA STATE U	NAS 6-2617	Hiser, H. W.	33	3057

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
WFC	Stanley, H. R.	OHIO STATE UNIV	NAS 6-2484	Rapp, R. H.	32	3115
WFC	Holland, A. C.	OLD DOMINION UNIV	NSG 6002	Bandy, A. R.	31	3661
WFC	Duke, J. R.	PENN STATE U-UNIV PK	NAS 6-2602	Hale, L. C.	19	3231
WFC	Duke, J. R.	PENN STATE U-UNIV PK	NAS 6-2726	Olivero, J.	31	3232
WFC	Ballance, C. W., Jr.	PENN STATE U-UNIV PK	NSG 6004	Hale, L. C.	19	3258
WFC	Maurer, H. E.	PURDUE UNIVERSITY	NAS 6-2613	Phillips, T. L.	39	2117
WFC	Maurer, H. E.	PURDUE UNIVERSITY	NAS 6-2695	Phillips, T. L.	39	2118
WFC	Ballance, C. W., Jr.	RICE UNIVERSITY	NAS 6-1667	Anderson, H. R., Jr.	11	3384
WFC	Stanley, H. R.	UNIV CALIF-L ANGELES	NAS 6-2463	Kaula, W. M.	33	1540
WFC	Stanley, H. R.	UNIV CALIF-L ANGELES	NAS 6-2703	Mintz, Y.	33	1541
WFC	Stanley, H. R.	UNIV CALIF-SAN DIEGO	NAS 6-2506	Hendershott, M.	11	1601
WFC	Duke, J. R.	UNIV OF DAYTON	NAS 6-2456	Chupp, E. L.	31	3149
WFC	Ballance, C. W., Jr.	UNIV HOUSTON-HOUSTON	NSG 6008	Sheldon, W. R.	19	3472
WFC	Ballance, C. W., Jr.	UNIV ILLINOIS-URBANA	NGR 14-005-181	Bowhill, S. A.	19	2080
WFC	Alfonsi, P. J.	UNIV MARYLAND-COL PK	NSG 6001	Harmon, D. M.	39	2361
WFC	Alfonsi, P. J.	UNIV MARYLAND-COL PK	NSG 6010	Harmon, D. M.	72	2362
WFC	Floyd, J. C.	UNIV MD-EASTRN SHORE	NAS 6-2595	Unavailable	99	2366
WFC	Raine, A. W.	UNIV MD-EASTRN SHORE	NGR 21-119-002	Nagarajon, N.	41	2368
WFC	Kim, H. H.	UNIV MD-EASTRN SHORE	NGR 21-119-003	Singh, G.	13	2369
WFC	Oberholtzer, J. D.	UNIV MD-EASTRN SHORE	NSG 6006	Wutoh, J. G.	99	2370
WFC	Ballance, C. W., Jr.	U MINN-MNPLS-ST PAUL	NSG 6005	Arnoldy, R. J.	19	2643
WFC	Ballance, C. W., Jr.	U MINN-MNPLS-ST PAUL	NSG 6009	Nier, A. O.	19	2644
WFC	Ballance, C. W., Jr.	UNIV OF PITTSBURGH	NSG 6011	Zipf, E. C., Jr.	19	3290
WFC	Stanley, H. R.	UNIV TEXAS-AUSTIN	NAS 6-2454	Tapley, B. D.	32	3482
WFC	Duke, J. R.	UNIV OF UTAH	NAS 6-2498	Kao, S. K.	31	3559
WFC	Duke, J. R.	UNIV OF UTAH	NAS 6-2627	Staffanson, F. L.	31	3560
WFC	Scott, J. H.	VIRGINIA POLY INST	NAS 6-2388	Pettry, D. E.	39	3695
WFC	Carr, R. E.	VIRGINIA POLY INST	NGL 47-004-067	Tieleman, H. W.	31	3697
HQ-AD	Wright, M. D.	GEORGE WASHINGTON U	NSG 7145	Logsdon, J. M.	75	1874
HQ-AD	Wright, M. D.	UNIV HOUSTON-HOUSTON	NASW 2691	Unavailable	73	3458
HQ-BX	Weir, J. F.	UNIV OF HAWAII-MANOA	NASW 2742	Jefferies, J. T.	11	2021
HQ-BX	Weir, J. F.	UNIV OF HAWAII-MANOA	NASW 2801	Jefferies, J. T.	11	2022
HQ-EC	Freibaum, J.	MASS INST OF TECH	NASW 2787	Unavailable	45	2442
HQ-EE	Ernst, H. E.	CITY COLLEGE OF N Y	NSG 7144	Schilling, D. L.	49	2857
HQ-EK	Schweickart, R. L.	UNIV OF CONNECTICUT	W-14061	Baldwin, R. C., Jr.	39	1822
HQ-ER	Morrison, J. R.	COLORADO SCH OF MINE	NGL 06-001-015	Lee, K.	39	1720
HQ-ES	Murphy, J. P.	OHIO STATE UNIV	NASW 2435	Mueller, I. I.	32	3117
HQ-ES	Murphy, J. P.	OHIO STATE UNIV	NGL 36-008-093	Mueller, I. I.	19	3119
HQ-ES	Murphy, J. P.	OHIO STATE UNIV	NGR 36-008-204	Mueller, I. I.	32	3123
HQ-ES	Murphy, J. P.	UNIV CALIF-L ANGELES	NSG 7002	Kaula, W. M.	32	1585
HQ-FE	Rich, W. B.	CAL STATE U-CHICO	NASW 2835	Unavailable	99	1250
HQ-FE	Collin, E. E.	OKLAHOMA STATE UNIV	NASW 1964	Wiggins, K. E.	99	3167
HQ-FE	Tuttle, F. B.	UNIV OF UTAH	NASW 2648	Ridd, M. K.	39	3563
HQ-K	Gray, E. Z.	NEW YORK UNIVERSITY	NSG 7169	Morgenstern, O.	72	2958
HQ-KT	Holley, H. L.	INDIANA U-BLOOMINGTN	NASW 2467	Shriner, H.	99	2102
HQ-KT	Holley, H. L.	INDIANA U-BLOOMINGTN	NASW 2714	Shriner, H.	99	2103
HQ-KT	Bivins, R. G.	INDIANA U-BLOOMINGTN	NASW 2845	Shriner, R. D.	99	2104
HQ-KT	Holley, H. L.	SOUTHEASTN OKLA ST U	NASW 2512	Gold, H.	99	3168
HQ-KT	Holley, H. L.	SOUTHEASTN OKLA ST U	NASW 2629	Unavailable	99	3169
HQ-KT	Bivins, R. G.	SOUTHEASTN OKLA ST U	NASW 2881	Gold, C. H.	99	3170
HQ-KT	Holley, H. L.	UNIV OF CONNECTICUT	NASW 2516	Wilde, D. U.	99	1818
HQ-KT	Ault, L. A.	UNIV OF DENVER	NASW 2607	Unavailable	75	1806
HQ-KT	Ault, L. A.	UNIV OF DENVER	NASW 2766	Freeman, J. E.	99	1807
HQ-KT	Ault, L. A.	UNIV OF DENVER	NASW 2892	Johnson, F. D.	99	1808
HQ-KT	Harrison, J. O.	UNIV OF GEORGIA	NASW 2658	Unavailable	99	2014
HQ-KT	Harrison, J. O.	UNIV OF GEORGIA	NASW 2820	Carmon, J. L.	99	2015
HQ-KT	Holley, H. L.	UNIV OF NEW MEXICO	NASW 2399	Shinnick, W. A.	99	2817
HQ-KT	Bivins, R. G.	UNIV OF NEW MEXICO	NASW 2633	Unavailable	99	2818

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-KT	Bivins, R. G.	UNIV OF NEW MEXICO	NASW 2805	Unavailable	99	2819
HQ-KT	Holley, H. L.	UNIV OF PITTSBURGH	NASW 2425	Holley, E.	99	3274
HQ-KT	Holley, H. L.	UNIV OF PITTSBURGH	NASW 2674	Unavailable	99	3275
HQ-KT	Bivins, R. G.	UNIV OF PITTSBURGH	NASW 2838	Unavailable	99	3276
HQ-KT	Holley, H. L.	UNIV OF SOUTHERN CAL	NASW 2771	Unavailable	99	1709
HQ-KT	Zimmerman, R. R.	UNIV WISC-MADISON	NASW 2716	Unavailable	59	3787
HQ-KT	O'handley, D. A.	UNIV WISC-MADISON	NASW 2819	Huston, N.	59	3788
HQ-P	Pohly, J. G.	ALABAMA A&M UNIV	NGR 01-001-003	Lee C. O.	59	1001
HQ-P	Carter, C. H.	AUBURN UNIV-AUBURN	NGT 01-003-044	Vachon, R. I.	49	1030
HQ-P	Carter, C. H.	AUBURN UNIV-AUBURN	NGT 01-003-045	O'Brien, J. F.	49	1031
HQ-P	Pohly, J. G.	BENNETT COLLEGE-NC	NGT 34-017-001	Sayles, J. H.	99	3044
HQ-P	Pohly, J. G.	CAL STATE U-L ANGLES	NSG 7229	Maniv, R.	46	1265
HQ-P	Carter, C. H.	CASE WESTERN RESERVE	NGT 36-027-011	Prahl, J. M.	49	3088
HQ-P	Morris, J. D.	COLUMBIA UNIVERSITY	NGR 33-008-168	Ginzberg, E.	72	2877
HQ-P	Vitale, J. A.	CORNELL UNIVERSITY	NGL 33-010-171	Liang, T.	39	2910
HQ-P	Pohly, J. G.	FEDERAL CITY COLLEGE	NGR 09-050-010	McDowell, H.	11	1849
HQ-P	Pohly, J. G.	GOUCHER COLLEGE	NGT 21-123-001	Billet, J.	99	2277
HQ-P	Carter, C. H.	HARVARD UNIVERSITY	NSG 7176	Field, G. B.	11	2412
HQ-P	Pohly, J. G.	HOWARD UNIVERSITY	NGL 09-011-046	Ferguson, G. A.	39	1880
HQ-P	Pohly, J. G.	HOWARD UNIVERSITY	NGT 09-011-051	Deloatch, E. M.	59	1884
HQ-P	Pohly, J. G.	HOWARD UNIVERSITY	NGT 09-011-058	Cox, E. L.	49	1885
HQ-P	Pohly, J. G.	LINCOLN UNIV-PA	NGT 39-108-750	Williams, W., Jr.	49	3225
HQ-P	Redding, E. R.	LA STATE U-BAT ROUGE	NGL 19-001-097	Whitehurst, C. A.	39	2246
HQ-P	Vitale, J. A.	LA STATE U-BAT ROUGE	NGL 19-001-105	Whitehurst, C. A.	39	2247
HQ-P	Carter, C. H.	MASS INST OF TECH	NGL 22-009-019	Harrington, J. V.	99	2447
HQ-P	Carter, C. H.	MASS INST OF TECH	NGL 22-009-638	McCarthy, J. F., Jr.	99	2455
HQ-P	Vitale, J. A.	MICHIGAN STATE UNIV	NGL 23-004-083	Boylan, M. G.	39	2544
HQ-P	Redding, E. R.	MISSISSIPPI STATE U	NGL 25-001-040	Brown, L. R.	39	2668
HQ-P	Vitale, J. A.	MISSISSIPPI STATE U	NGL 25-001-054	Miller, W. F.	39	2669
HQ-P	Pohly, J. G.	MOREHOUSE COLLEGE	NGT 11-008-004	Gayles, J. N.	99	2003
HQ-P	Pohly, J. G.	NM HIGHLANDS UNIV	NGT 32-010-001	Zenick, H.	99	2794
HQ-P	Pohly, J. G.	NEW MEX ST U-LAS CR	NGT 32-003-750	Zimmerman, R. M.	49	2811
HQ-P	Pohly, J. G.	NO CAR A&T STATE U	NGT 34-012-750	Chandra, S.	49	3053
HQ-P	Morris, J. D.	NORTHWESTERN UNIV	NGL 14-007-058	Radnor, M.	79	2041
HQ-P	Carter, C. H.	OHIO STATE UNIV	NGT 36-008-007	Ellingson, H. V.	52	3126
HQ-P	Vitale, J. A.	OLD DOMINION UNIV	NGL 47-003-067	Kindle, E. C.	31	3611
HQ-P	Carter, C. H.	OLD DOMINION UNIV	NGT 47-003-028	Goglia, G. L.	49	3618
HQ-P	Carter, C. H.	OLD DOMINION UNIV	NGT 47-003-029	Goglia, G. L.	49	3619
HQ-P	Vitale, J. A.	OREGON STATE UNIV	NGL 38-002-053	Schrumpf, B. J.	39	3184
HQ-P	Carter, C. H.	PENN STATE U-UNIV PK	NGT 39-009-141	Reethof, G.	99	3248
HQ-P	Pohly, J. G.	PRAIRIE VIEW A&M U	NGT 44-033-750	Greaux, A. E.	49	3379
HQ-P	Vitale, J. A.	PURDUE UNIVERSITY	NGL 15-005-186	Weismiller, R. A.	39	2125
HQ-P	Vitale, J. A.	SO DAKOTA STATE UNIV	NGL 42-003-007	Myers, V. I.	39	3316
HQ-P	Pohly, J. G.	SOUTHEASTN OKLA ST U	NGT 37-004-010	Robinson, J. L.	99	3171
HQ-P	Pohly, J. G.	SO UNIV-BATON ROUGE	NGT 19-005-750	Burrell, M. Q.	49	2252
HQ-P	Pohly, J. G.	SPELMAN COLLEGE	NGT 11-013-001	McBay, S. M.	99	2012
HQ-P	Carter, C. H.	STANFORD UNIVERSITY	NGT 05-020-409	Adams, J. L.	49	1415
HQ-P	Carter, C. H.	STANFORD UNIVERSITY	NGT 05-020-412	Bershader, D.	49	1416
HQ-P	Pohly, J. G.	TENNESSEE STATE UNIV	NGT 43-014-750	Clark, Y. Y.	49	3322
HQ-P	Pohly, J. G.	TEXAS A&I UNIVERSITY	NGT 44-073-750	Franke, E. A.	49	3403
HQ-P	Vitale, J. A.	TEXAS A&M UNIVERSITY	NGL 44-001-001	Rouse, J. W., Jr.	39	3433
HQ-P	Pohly, J. G.	TUSKEGEE INSTITUTE	NGT 01-005-750	Dybczak, Z. W.	49	1037
HQ-P	Carter, C. H.	UNIV ALA-HUNTSVILLE	NGL 01-008-001	Rush, J. E.	99	1065
HQ-P	Carter, C. H.	UNIV ALA-HUNTSVILLE	NGT 01-008-021	Head, R. R.	49	1067
HQ-P	Carter, C. H.	UNIV ALA-TUSCALOOSA	NGT 01-002-080	Barfield, B. F.	49	1081
HQ-P	Vitale, J. A.	UNIV ALASKA-FAIRBNKS	NGL 02-001-092	Miller, J. M.	39	1089
HQ-P	Vitale, J. A.	UNIV OF ARIZONA	NGL 03-002-313	Johnson, J. D.	39	1136
HQ-P	Vitale, J. A.	UNIV CALIF-BERKELEY	NGL 05-003-404	Colewell, R. N.	39	1471

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-P	Carter, C. H.	UNIV CALIF-BERKELEY	NGL 05-003-497	Anderson, K. A.	99	1474
HQ-P	Vitale, J. A.	UNIV CALIF-BERKELEY	NSG 7220	Colwell, R. N.	39	1510
HQ-P	Redding, E. R.	UNIV CALIF-L ANGELES	NGL 05-007-003	Libby, W. F.	99	1554
HQ-P	Carter, C. H.	UNIV OF CHICAGO	NGL 14-001-258	Simpson, J. A.	99	2062
HQ-P	Vitale, J. A.	UNIV COLORADO-BOLDR	NGL 06-003-200	Ives, J. D.	39	1776
HQ-P	Vitale, J. A.	UNIV OF FLORIDA	NSG 7236	Brooks, H. K.	39	1933
HQ-P	Vitale, J. A.	UNIV OF KANSAS	NGL 17-004-024	Barr, B. G.	39	2194
HQ-P	Carter, C. H.	UNIV MARYLAND-COL PK	NGT 21-002-254	Emad, F. P.	49	2342
HQ-P	Vitale, J. A.	U MINN-MNPLS-ST PAUL	NGL 24-005-263	Shepherd, W. G.	39	2631
HQ-P	Carter, C. H.	U MINN-MNPLS-ST PAUL	NGT 24-005-078	Anderson, G. W.	99	2638
HQ-P	Vitale, J. A.	UNIV NEBRASKA-LINCLN	NGL 28-004-020	Carlson, M. P.	39	2725
HQ-P	Morris, J. D.	UNIV OF NEW MEXICO	NGL 32-004-042	Rosenthal, A. H.	75	2830
HQ-P	Pohly, J. G.	UNIV OF NEW MEXICO	NGT 32-004-750	Theye, L. A.	49	2837
HQ-P	Pohly, J. G.	UNIV OKLAHOMA-NORMAN	NGT 37-003-760	Thomas, G.	49	3175
HQ-P	Vitale, J. A.	UNIV SO MISSISSIPPI	NGL 25-005-007	Pinson, J. W.	39	2681
HQ-P	Carter, C. H.	UNIV TEXAS-DALLAS	NGL 44-004-130	Johnson, F. S.	99	3530
HQ-P	Pohly, J. G.	UNIV TEXAS-EL PASO	NGT 44-085-750	Guard, R. W.	49	3543
HQ-P	Vitale, J. A.	U TEX PUB HLTH-HUS	NGL 44-084-003	Rush, M.	59	3549
HQ-P	Vitale, J. A.	UNIV OF UTAH	NSG 7226	Ridd, M. K.	39	3571
HQ-P	Vitale, J. A.	UNIV WISC-MADISON	NGL 50-002-127	Clapp, J. L.	39	3791
HQ-P	Redding, E. R.	WASHINGTON UNIVERSTY	NGL 26-008-054	Morgan, R. P.	99	2709
HQ-MT	Huff, V. N.	HOWARD UNIVERSITY	NGR 09-011-053	Bainum, P. M.	46	1881
HQ-MT	Hall, H.	MASS INST OF TECH	NGR 22-009-735	Chapman, P. K.	13	2477
HQ-MT	Cramblitt, D.	PENN STATE U-UNIV PK	NSG 7078	Kaplan, M.	42	3259
HQ-MV	Goozh, P. E.	UNIV OF ROME	NASW 1761	Unavailable	49	3823
HQ-Q	Keller, S. W.	NORTHWESTERN UNIV	NGR 14-007-136	Radnor, M.	99	2046
HQ-QG	Arnoldi, L. B.	BOSTON UNIVERSITY	NSG 7063	Hershberg, P. I.	52	2377
HQ-RE	Pontious, C. E.	CALIF INST OF TECH	NGR 05-002-340	Ingargiola, G.	49	1230
HQ-RE	Alsberg, H.	MASS INST OF TECH	NGL 22-009-013	Kennedy, R. S.	45	2444
HQ-RE	Gevarter, W. B.	MASS INST OF TECH	NSG 7227	Winston, P. H.	49	2526
HQ-RE	Pontious, C. E.	RENSSELAER POLY-NY	NSG 7184	Frederick, D. K.	19	2986
HQ-RE	Pontious, C. E.	STANFORD UNIVERSITY	NASW 2916	McCarthy, J.	45	1349
HQ-RE	Pontious, C. E.	STANFORD UNIVERSITY	NGL 05-020-103	Harris, S. E.	45	1383
HQ-RE	Pontious, C. E.	UNIV MARYLAND-COL PK	NGR 21-002-270	Minker, J.	21	2329
HQ-RM	Sanchez, E. L.	PRINCETON UNIVERSITY	NSG 7131	Dowell, E. H.	99	2790
HQ-RP	Lazar, J.	PRINCETON UNIVERSITY	NGL 31-001-005	Jahn, R. G.	42	2762
HQ-RP	Wasel, R. A.	UNIV OF UTAH	NGL 45-003-037	Devires, K. L.	46	3566
HQ-RR	Thom, K.	GEORGIA INST OF TECH	NSG 7067	Williams, R. J.	13	1997
HQ-RR	Thom, K.	ILL INST OF TECH	NSG 7039	Weinstein, H.	13	2037
HQ-RR	Thom, K.	NO CAROLINA STATE U	NGL 34-002-017	Bennett, W. H.	13	3059
HQ-RR	Thom, K.	PRINCETON UNIVERSITY	NGR 31-001-328	Layton, J. P.	13	2777
HQ-RR	Thom, K.	STANFORD UNIVERSITY	NSG 7110	Pantell, R. H.	13	1440
HQ-RR	Thom, K.	UNIV OF FLORIDA	NGL 10-005-089	Schneider, R. T.	13	1923
HQ-RR	Thom, K.	UNIV MARYLAND-COL PK	NGR 21-002-408	Tidman, D. A.	21	2339
HQ-RR	Schwenk, F. C.	UNIV MARYLAND-COL PK	NSG 7196	Weber, J.	13	2365
HQ-RR	Thom, K.	UNIV OF WASHINGTON	NGL 48-002-044	Hertzberg, A.	13	3746
HQ-RW	Gangler, J. J.	MASS INST OF TECH	W-13995		47	2527
HQ-RW	Weinberg, I.	STANFORD UNIVERSITY	NGL 05-020-242	Little, W. A.	13	1386
HQ-RW	Gangler, J. J.	TULANE UNIVERSITY	NGL 19-002-027	Hermann, A. M.	13	2261
HQ-RX	Rollins, R. H.	W VA COL GRAD STUDY	NSG 7089	Cobb, W. E.	75	3766
HQ-NS	Thom, K.	CITY COLLEGE OF N Y	NGL 33-013-034	Tchen, C. M.	13	2851
HQ-NS	Schwenk, F. C.	UNIV OF ARIZONA	NGL 03-002-006	Schultz, D. G.	45	1129
HQ-SB	Larson, C. A.	BOSTON UNIVERSITY	NGR 22-004-018	Fulton, G. P.	59	2373
HQ-SB	Young, R. S.	BOSTON UNIVERSITY	NGR 22-004-025	Margulis, L.	32	2374
HQ-SB	Young, R. S.	CALIF INST OF TECH	NGR 05-002-121	Horowitz, N. H.	51	1216
HQ-SB	Young, R. S.	CALIF INST OF TECH	NGR 05-002-310	Bonner, J.	32	1227
HQ-SB	Young, R. S.	CAL STATE U-FULLERTN	NGR 05-071-008	Wegner, P. A.	12	1257
HQ-SB	Saunders, J. F.	CATHOLIC UNIVERSITY	NGR 09-005-022	Decicco, B. T.	51	1836

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-SB	Halstead, T. W.	CLARKSON COL OF TECH	NSG 7170	McNulty, P. J.	59	2862
HQ-SB	Jones, W. L.	COLLEGE OF WM & MARY	NSG 7073	Aceto, H., Jr.	59	3590
HQ-SB	Young, R. S.	CORNELL UNIVERSITY	NGR 33-010-101	Sagan, C. E.	12	2913
HQ-SB	Young, R. S.	CORNELL UNIVERSITY	NSG 7235	MacDonald, R. E.	51	2936
HQ-SB	Young, R. S.	FLORIDA STATE UNIV	NGR 10-004-041	Larock, P. A.	51	1908
HQ-SB	Hall, L. B.	GEORGE WASHINGTON U	NASW 2768	Unavailable	59	1856
HQ-SB	Hall, L. B.	GEORGE WASHINGTON U	NASW 2890	Unavailable	75	1857
HQ-SB	Young, R. S.	GEORGIA INST OF TECH	NSG 7069	Hubbard, J. S.	51	1998
HQ-SB	Hall, L. B.	HARDIN-SIMMONS UNIV	NGR 44-095-001	Foster, T. L.	51	3373
HQ-SB	Young, R. S.	HARVARD UNIVERSITY	NGL 22-007-069	Barghoorn, E. S.	32	2392
HQ-SB	Vinograd, S. P.	INDIANA U-BLOOMINGTN	NGL 15-003-117	Maickel, R. P.	52	2108
HQ-SB	Young, R. S.	INDIANA U-BLOOMINGTN	NGR 15-003-118	Hayes, [illegible] M.	32	2111
HQ-SB	Young, R. S.	MASS INST OF TECH	NGR 22-009-005	Biemann, K.	51	2457
HQ-SB	Young, R. S.	MASS INST OF TECH	NGR 22-009-277	Rich, A.	12	2459
HQ-SB	Hall, L. B.	NO DAKOTA STATE UNIV	NGR 35-001-012	Hill, T. W.	12	3076
HQ-SB	Young, R. S.	PENN STATE U-UNIV PK	NGR 39-009-180	Casida, L. E., Jr.	51	3244
HQ-SB	Young, R. S.	POLY INST OF NY	NGR 33-006-070	Eirich, F. R.	12	2962
HQ-SB	Young, R. S.	RENSSELAER POLY-NY	NGR 33-018-148	Ferris, J. P.	12	2978
HQ-SB	Young, R. S.	RENSSELAER POLY-NY	NSG 7065	Wedler, F. C.	51	2985
HQ-SB	Young, R. S.	SAN FRAN STATE UNIV	NSG 7234	Kenyon, D. H.	12	1286
HQ-SB	Young, R. S.	SO ILL UNIV-CARBONDL	NGR 14-008-026	Yopp, J. H.	51	2050
HQ-SB	Young, R. S.	STANFORD UNIVERSITY	NGL 05-020-582	Bonner, W. A.	59	1392
HQ-SB	Young, R. S.	STANFORD UNIVERSITY	NGR 05-020-004	Lederberg, J.	51	1394
HQ-SB	Young, R. S.	STATE UNIV NY-BUFFAL	NGR 33-015-002	Danielli, J. F.	12	3001
HQ-SB	Young, R. S.	STATE U NY-STONY BRK	NGR 33-015-169	Owen, T.	12	3015
HQ-SB	Young, R. S.	TEXAS A&M UNIVERSITY	NSG 7037	Fendler, J. H.	12	3439
HQ-SB	Young, R. S.	UNIV ALA-BIRMINGHAM	NGR 01-010-001	Lacey, J. C., Jr.	12	1040
HQ-SB	Young, R. S.	UNIV OF ARIZONA	NGR 03-002-171	Nagy, B.	32	1139
HQ-SB	Young, R. S.	UNIV CALIF-BERKELEY	NGL 05-003-003	Calvin, M.	32	1466
HQ-SB	Young, R. S.	UNIV CALIF-BERKELEY	NGR 05-003-460	Jukes, J. H.	12	1482
HQ-SB	Young, R. S.	UNIV CALIF-L ANGELES	NGR 05-007-221	Kaplan, I. R.	32	1562
HQ-SB	Young, R. S.	UNIV CALIF-L ANGELES	NGR 05-007-407	Schopf, J. W.	32	1573
HQ-SB	Young, R. S.	UNIV CALIF-SAN DIEGO	NGR 05-009-213	Yayanos, A. A.	51	1626
HQ-SB	Young, R. S.	UNIV CALIF-SAN DIEGO	NGR 05-009-218	Miller, S. L.	12	1627
HQ-SB	Young, R. S.	UNIV CALIF-SAN FRAN	NSG 7151	Stoeckenius, W.	51	1653
HQ-SB	Young, R. S.	UNIV CALIF-S BARBARA	NGR 05-010-035	Cloud, P. E.	32	1656
HQ-SB	Young, R. S.	UNIV OF HAWAII-MANOA	NGL 12-001-042	Siegel, S. M.	51	2025
HQ-SB	Young, R. S.	UNIV OF HAWAII-MANOA	NGR 12-001-109	Folsome, C. E.	12	2028
HQ-SB	Young, R. S.	UNIV HOUSTON-HOUSTON	NGR 44-005-002	Oro, J.	32	3465
HQ-SB	Young, R. S.	UNIV HOUSTON-HOUSTON	NGR 44-005-091	Becker, R. S.	12	3466
HQ-SB	Young, R. S.	UNIV ILLINOIS-URBANA	NSG 7044	Woese, C. R.	12	2096
HQ-SB	Young, R. S.	UNIV MARYLAND-COL PK	NGR 21-002-317	Ponnamperuma, C. A.	12	2332
HQ-SB	Young, R. S.	UNIV OF MIAMI	NGR 10-007-008	Fox, S. W.	12	1942
HQ-SB	Hall, L. B.	U MINN-MNPLS-ST PAUL	NGL 24-005-160	Straub, C. P.	51	2629
HQ-SB	Young, R. S.	UNIV OF ROCHESTER	NGR 33-019-002	Hempfling, W. P.	51	3036
HQ-SB	Young, R. S.	UNIV SO CAROLINA-COL	NSG 7096	Rohlfing, D. L.	51	3313
HQ-SB	Halstead, T. W.	UNIV OF TORONTO	NSG 7079	Johnson, W. H.	53	3815
HQ-SB	Young, R. S.	UNIV OF VERMONT	NSG 7021	Thanassi, J. W.	12	3579
HQ-SB	Geib, D. S.	UNIV OF WASHINGTON	NGR 48-002-130	Gordon, M. P.	51	3751
HQ-SB	Young, R. S.	UTAH STATE UNIV	NSG 7038	Swanson, L. W.	32	3576
HQ-SB	Saunders, J. F.	VIRGINIA COMNWLTH U	NGL 47-002-005	Ham, W. T.	51	3685
HQ-SB	Young, R. S.	WORCESTER POLY INST	NSG 7154	Danielli, J. F.	51	2542
HQ-SB	Young, R. S.	YALE UNIVERSITY	NGR 07-004-009	Morowitz, H. J.	51	1826
HQ-SA	Roman, N. G.	BOWLING GRN STATE U	NSG 7022	Ptak, R. L.	11	3078
HQ-SA	Rosendahl, J. D.	CALIF INST OF TECH	NGL 05-002-134	Oke, J. B.	11	1205
HQ-SA	Boggess, N. W.	CALIF INST OF TECH	NGL 05-002-207	Neugebauer, G.	11	1211
HQ-SA	Sofia, S.	CALIF INST OF TECH	NGR 05-002-160	Vogt, R. E.	11	1218
HQ-SA	Boggess, N. W.	CALIF INST OF TECH	NGR 05-002-256	Thorne, D.	11	1220

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-SA	Opp, A. G.	CALIF INST OF TECH	NGR 05-002-284	Garmire, G. P.	11	1222
HQ-SA	Boggess, N. W.	CALIF INST OF TECH	NSG 7140	Neugebauer, G.	11	1242
HQ-SA	Roman, N. G.	CALIF INST OF TECH	NSG 7195	Christysackmann, I. J.	11	1245
HQ-SA	Roman, N. G.	COLUMBIA UNIVERSITY	NGR 33-008-194	Weisskopf, M. C.	11	2882
HQ-SA	Boggess, N. W.	COLUMBIA UNIVERSITY	NSG 7105	Austin, P. M.	11	2894
HQ-SA	Sofia, S.	COLUMBIA UNIVERSITY	NSG 7248	Weisskopf, M. C.	11	2897
HQ- A	Opp, A. G.	CORNELL UNIVERSITY	NGR 33-010-145	Greisen, K. I.	11	2916
HQ-SA	Boggess, N. W.	CORNELL UNIVERSITY	NGR 33-010-172	Harwit, M. O.	11	2919
HQ-SA	Rosendhal, J. D.	HARVARD UNIVERSITY	NASW 2938	Noyes, R. W.	49	2390
HQ-SA	Boggess, N. W.	HARVARD UNIVERSITY	NGR 22-007-270	Fazio, G. G.	11	2402
HQ-SA	Sofia, S.	HARVARD UNIVERSITY	NGR 22-007-272	Cameron, A. G.	11	2403
HQ-SA	Rosendhal, J. D.	INDIANA U-BLOOMINGTN	NGL 15-003-002	Johnson, H. R.	11	2107
HQ-SA	Opp, A. G.	LA STATE U-BAT ROUGE	NGR 19-001-012	Huggett, R. W.	11	2248
HQ-SA	Boggess, N. W.	MASS INST OF TECH	NGR 22-009-526	Weiss, R.	11	2464
HQ-SA	Opp, A. G.	MASS INST OF TECH	NGR 22-009-785	Clark, G. W.	13	2482
HQ-SA	Roman, N. G.	MASS INST OF TECH	NSG 7091	Weiss, R.	11	2522
HQ-SA	Boggess, N. W.	MASS INST OF TECH	NSG 7186	Kleinmann, S. G.	11	2525
HQ-SA	Wood, D. B.	MONTANA STATE UNIV	NGR 27-001-040	Nordtvedt, K., Jr.	11	2719
HQ-SA	Roman, N. G.	NEW MEX ST U-LAS CR	NGL 32-003-069	Liefeld, R. J.	11	2810
HQ-SA	Rosendahl, J. D.	NEW YORK UNIVERSITY	NGR 33-016-196	Glassgold, A. E.	13	2946
HQ-SA	Lazarus, A. J.	NEW YORK UNIVERSITY	NSG 7116	Korff, S. A.	11	2957
HQ-SA	Rosendhal, J. D.	NORTHWESTERN UNIV	NGL 14-007-041	Huang, S. S.	11	2040
HQ-SA	Roman, N. G.	NORTHWESTERN UNIV	NGR 14-007-122	Bahng, J. D.	11	2044
HQ-SA	Roman, N. G.	PRINCETON UNIVERSITY	NGL 31-001-007	Spitzer, L., Jr.	11	2763
HQ-SA	Roman, N. G.	PRINCETON UNIVERSITY	NGR 31-001-001	Millich, F.	11	2767
HQ-SA	Roman, N. G.	PRINCETON UNIVERSITY	NSR 31-001-901	Lowrance, J. L.	11	2791
HQ-SA	Rosendhal, J. D.	PURDUE UNIVERSITY	NSG 7167	Moffett, T. J.	11	2141
HQ-SA	Sofia, S.	RICE UNIVERSITY	NSG 7015	Clayton, D. D.	11	3395
HQ-SA	Sofia, S.	STANFORD UNIVERSITY	NGR 05-020-452	Hofstadter, R.	11	1400
HQ-SA	Boggess, N. W.	STANFORD UNIVERSITY	NGR 05-020-510	Petrosian, V.	11	1402
HQ-SA	Jordan, S. D.	STANFORD UNIVERSITY	NGR 05-020-559	Wilcox, J. M.	11	1403
HQ-SA	Sofia, S.	STANFORD UNIVERSITY	NGR 05-020-668	Sturrock, P. A.	11	1409
HQ-SA	Roman, N. G.	ST U NY COL-GENESEO	NGR 33-219-002	Meisel, D. D.	11	3030
HQ-SA	Sofia, S.	STATE U NY-STONY BRK	NGR 33-015-180	Forman, M. A.	11	3016
HQ-SA	Roman, N. G.	UNIV OF ARIZONA	NGL 03-002-017	Bashkin, S.	11	1130
HQ-SA	Roman, N. G.	UNIV OF ARIZONA	NGL 03-002-032	Tifft, W. G.	11	1132
HQ-SA	Opp, A. G.	UNIV OF ARIZONA	NGR 03-002-071	Bowen, T.	11	1137
HQ-SA	Boggess, N. B.	UNIV OF ARIZONA	NGR 03-002-269	Low, F. J.	11	1141
HQ-SA	Boggess, N. W.	UNIV OF ARIZONA	NGR 03-002-371	Hoffman, W. F.	11	1145
HQ-SA	Sofia, S.	UNIV OF ARIZONA	NSG 7101	Jokippi, J.	11	1163
HQ-SA	Roman, N. G.	UNIV OF ARIZONA	NSG 7142	Tifft, W. G.	45	1166
HQ-SA	Rosendhal, J. D.	UNIV ARKANSAS-FAYETV	NSG 7106	Hughes, R. H.	11	1179
HQ-SA	Boggess, N. W.	UNIV CALIF-BERKELEY	NGL 05-003-272	Townes, C. H.	11	1469
HQ-SA	Sofia, S.	UNIV CALIF-BERKELEY	NGR 05-003-376	Price, P. B.	11	1477
HQ-SA	Sofia, S.	UNIV CALIF-BERKELEY	NGR 05-003-513	Heckman, H. H.	11	1487
HQ-SA	Sofia, S.	UNIV CALIF-BERKELEY	NGR 05-003-553	Alvarez, L. W.	11	1488
HQ-SA	Rosendhal, J. D.	UNIV CALIF-BERKELEY	NGR 05-003-578	Silk, J. I.	11	1491
HQ-SA	Rosendhal, J. D.	UNIV CALIF-BERKELEY	NSG 7139	Bowyer, C. S.	11	1507
HQ-SA	Boggess, N. W.	UNIV CALIF-BERKELEY	NSG 7205	Richards, P. L.	11	1509
HQ-SA	Sofia, S.	UNIV CALIF-RIVERSIDE	NGR 05-008-022	White, R. S.	11	1593
HQ-SA	Opp, A. G.	UNIV CALIF-SAN DIEGO	NGL 05-005-003	Peterson, L. E.	13	1606
HQ-SA	Roman, N. G.	UNIV CALIF-SAN DIEGO	NGL 05-005-004	Gould, R. J.	11	1607
HQ-SA	Aucremanne, M. J.	UNIV CALIF-SAN DIEGO	NGR 05-009-188	McIlwain, C. E.	11	1624
HQ-SA	Boggess, N. W.	UNIV CALIF-S CRUZ	NGR 05-061-015	Rank, D. M.	11	1662
HQ-SA	Opp, A. G.	UNIV OF CHICAGO	NGL 14-001-001	Parker, E. N.	11	2055
HQ-SA	Pellerin, C.	UNIV OF CHICAGO	NGL 14-001-005	Meyer, P.	11	2056
HQ-SA	Sofia, S.	UNIV OF CHICAGO	NGL 14-001-006	Simpson, J. A.	11	2057
HQ-SA	Rosendhal, J. D.	UNIV OF CHICAGO	NGR 14-001-147	Hobbs, L. M.	11	2065

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-SA	Rosendhal, J. D.	UNIV COLORADO-BOLDR	NASW 2913	Laurence, G. M.	11	1772
HQ-SA	Roman, N. G.	UNIV COLORADO-BOLDR	NGR 06-003-179	Lillie, C. F.	11	1780
HQ-SA	Mitchell, J. L.	UNIV COLORADO-BOLDR	NGR 06-003-215	Speiser, T. W.	13	1784
HQ-SA	Calahan, H. D.	UNIV COLORADO-BOLDR	NGR 06-003-216	Linsky, J. L.	11	1785
HQ-SA	Roman, N. G.	UNIV COLORADO-BOLDR	NGR 06-003-222	Lillie, C. F.	11	1787
HQ-SA	Sofia, S.	UNIV COLORADO-BOLDR	NSG 7128	McCray, R.	11	1796
HQ-SA	Calahan, H. D.	UNIV OF DENVER	NGR 06-004-123	Patel, V. L.	13	1811
HQ-SA	Rosendhal, J. D.	UNIV OF FLORIDA	NSG 7143	Carr, T. D.	11	1932
HQ-SA	Roman, N. G.	UNIV MARYLAND-BALT	NGR 21-002-010	Misner, C. W.	11	2297
HQ-SA	Opp, A. G.	UNIV MARYLAND-COL PK	NGR 21-002-066	Earl, J. A.	11	2324
HQ-SA	Rosendhal, J. D.	UNIV MARYLAND-COL PK	NGR 21-002-073	Griem, H. R.	11	2325
HQ-SA	Sofia, S.	UNIV MARYLAND-COL PK	NGR 21-002-224	Gloeckler, G.	11	2328
HQ-SA	Rosendhal, J. D.	UNIV MICH-ANN ARBOR	NGR 23-005-464	Hiltner, W. A.	11	2581
HQ-SA	Jordan, S. D.	UNIV MICH-ANN ARBOR	NSG 7004	Haddock, F. T.	13	2601
HQ-SA	Opp, A. G.	U MINN-MNPLS-ST PAUL	NGR 24-005-050	Waddington, C. J.	11	2632
HQ-SA	Roman, N. G.	U MINN-MNPLS-ST PAUL	NSR 24-005-245	Luyten, W. J.	11	2649
HQ-SA	Sofia, S.	UNIV NEW HAMP-DURHAM	NGL 30-002-021	Chupp, E. L.	11	2741
HQ-SA	Pellerin, C.	UNIV NEW HAMP-DURHAM	NGR 30-002-052	Webber, W. R.	11	2742
HQ-SA	Boggess, N. W.	UNIV OF NEW MEXICO	NGR 32-004-068	Peterson, A. W.	11	2835
HQ-SA	Calahan, H. D.	UNIV OF NEW MEXICO	NGR 32-004-086	Ahluwalia, H. S.	13	2836
HQ-SA	Dubin, M.	UNIV OF PITTSBURGH	NGR 39-011-113	Zipf, E. C., Jr.	31	3282
HQ-SA	Roman, N. G.	UNIV OF SO FLORIDA	NSG 7242	Wilson, R. E.	11	1951
HQ-SA	Calahan, H. D.	UNIV OF SOUTHERN CAL	NGR 05-018-185	Intriligator, D. S.	13	1716
HQ-SA	Rosendhal, J. D.	UNIV TEXAS-AUSTIN	NGR 44-012-209	Vanden Bout, P. A.	11	3498
HQ-SA	Roman, N. G.	UNIV TEXAS-AUSTIN	NSG 7232	Wheeler, J. C.	11	3518
HQ-SA	Opp, A. G.	UNIV TEXAS-DALLAS	NGR 44-004-133	Allum, F. R.	11	3534
HQ-SA	Berko, F. W.	UNIV TEXAS-DALLAS	NSR 44-004-089	Hoffman, J. H.	13	3542
HQ-SA	Rosendhal, J. D.	UNIV OF TOLEDO	NSG 7041	Witt, A. N.	11	3159
HQ-SA	Roman, N. G.	UNIV OF TOLEDO	NSG 7138	Molnar, M. R.	11	3160
HQ-SA	Roman, N. G.	UNIV OF VIRGINIA	NGL 47-005-066	Frederick, L. W.	11	3668
HQ-SA	Sofia, S.	UNIV WISC-MADISON	NGL 50-002-044	Kraushaar, W. L.	11	3790
HQ-SA	Boggess, N. W.	UNIV WISC-MADISON	NSG 7033	Scherb, F.	11	3802
HQ-SA	Roman, N. G.	UNIV WISC-MADISON	NSG 7050	Code, A. D.	11	3803
HQ-SA	Rosendhal, J. D.	UNIV WISC-MADISON	NSG 7133	Savage, B. D.	11	3804
HQ-SA	Sofia, S.	UNIV OF WYOMING	NGR 51-001-035	Tompkins, D. R., Jr.	13	3812
HQ-SA	Sofia, S.	WASHINGTON UNIVERSTY	NGR 26-008-001	Klarmann, J.	11	2712
HQ-SL	French, B. M.	ARIZONA STATE UNIV	NGL 03-001-001	Moore, C. B.	32	1095
HQ-SL	Williams, R. J.	ARIZONA STATE UNIV	NSG 7040	Larimer, J. W.	32	1098
HQ-SL	Williams, R. J.	ARIZONA STATE UNIV	NSG 7217	Holloway, J. R.	32	1099
HQ-SL	Brunk, W. E.	BRIGHAM YOUNG UNIV	NGR 45-001-032	Jones, D. E.	11	3554
HQ-SL	Dwornik, S. E.	BROWN UNIVERSITY	NGR 40-002-088	Mutch, T. A.	32	3295
HQ-SL	Williams, R. J.	BROWN UNIVEPSITY	NGR 40-002-116	Head, J. W., Jr.	32	3297
HQ-SL	Brunk, W. E.	CALIF INST OF TECH	NGL 05-002-003	Muhleman, D. O.	11	1200
HQ-SL	Brunk, W. E.	CALIF INST OF TECH	NGL 05-002-007	Neugebauer, G.	11	1201
HQ-SL	Williams, R. J.	CALIF INST OF TECH	NGL 05-002-105	Ahrens, T. J.	32	1204
HQ-SL	Brunk, W. E.	CALIF INST OF TECH	NGL 05-002-140	Munch, G.	11	1207
HQ-SL	Brunk, W. E.	CALIF INST OF TECH	NGR 05-002-114	Muhleman, D. O.	11	1214
HQ-SL	Dwornik, S. E.	CALIF INST OF TECH	NGR 05-002-117	Murray, B. C.	32	1215
HQ-SL	Brunk, W. E.	CALIF INST OF TECH	NGR 05-002-185	Westphal, J. A.	11	1219
HQ-SL	Dwornik, S. E.	CALIF INST OF TECH	NGR 05-002-303	Shoemaker, E. M.	32	1225
HQ-SL	Fellows, R. F.	CALIF INST OF TECH	NSG 7094	Neugebauer, G.	32	1237
HQ-SL	Fellows, R. F.	CALIF INST OF TECH	NSG 7112	Murray, B. C.	31	1238
HQ-SL	Dwornik, S. E.	CALIF INST OF TECH	NSG 7125	Albee, A. [illegible]	19	1239
HQ-SL	Williams, R. J.	CALIF INST OF TECH	NSG 7129	Ahrens, T. J.	32	1240
HQ-SL	Brunk, W. E.	CALIF INST OF TECH	NSG 7136	Leighton, R. B.	11	1241
HQ-SL	Dwornik, S. E.	CALIF INST OF TECH	NSG 7155	Murray, B. C.	32	1243
HQ-SL	Dwornik, S. E.	CALIF INST OF TECH	NSG 7160	Anderson, D. L.	32	1244
HQ-SL	Williams, R. J.	CALIF INST OF TECH	NSG 7202	Burnett, D. S.	32	1246

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-SL	Williams, R. J.	COLUMBIA UNIVERSITY	NSG 7194	Langseth, M. G.	32	2895
HQ-SL	French, B. M.	COLUMBIA UNIVERSITY	NSG 7200	O'Nions, R. K.	32	2896
HQ-SL	Tarver, P.	CORNELL UNIVERSITY	NASW 2573	Wehe, R. L.	49	2905
HQ-SL	Tarver, P.	CORNELL UNIVERSITY	NASW 2750	Wehe, R. L.	49	2906
HQ-SL	Fellows, R. F.	CORNELL UNIVERSITY	NGL 33-010-082	Sagan, C. E.	31	2909
HQ-SL	Fellows, R. F.	CORNELL UNIVERSITY	NGL 33-010-186	Gierasch, P. J.	31	2911
HQ-SL	Williams, R. J.	CORNELL UNIVERSITY	NGR 33-010-178	Kuckes, A. F.	32	2920
HQ-SL	Brunk, W. E.	CORNELL UNIVERSITY	NGR 33-010-210	Harwit, M. O.	11	2924
HQ-SL	Dwornik, S. E.	CORNELL UNIVERSITY	NGR 33-010-220	Sagan, C. E.	32	2925
HQ-SL	Brunk, W. E.	CORNELL UNIVERSITY	NSG 7126	Veverka, J.	11	2933
HQ-SL	Dwornik, S. E.	CORNELL UNIVERSITY	NSG 7156	Veverka, J.	32	2935
HQ-SL	Fellows, R. F.	CORNELL UNIVERSITY	NSG 7243	Elliot, J. L.	31	2937
HQ-SL	Brunk, W. E.	FLORIDA STATE UNIV	NGR 10-004-056	Hunt, R. H.	11	1909
HQ-SL	Fellows, R. F.	GEORGIA INST OF TECH	NGL 11-002-004	Edwards, H. D.	31	1980
HQ-SL	Fellows, R. F.	HARVARD UNIVERSITY	NGL 22-007-228	Goody, R. M.	31	2394
HQ-SL	Fellows, R. F.	HARVARD UNIVERSITY	NGR 22-007-242	Goody, R. M.	31	2397
HQ-SL	Fellows, R. F.	HARVARD UNIVERSITY	NGR 22-007-267	McElroy, M. B.	31	2400
HQ-SL	Dwornik, S. E.	HARVARD UNIVERSITY	NGR 22-007-269	Cameron, A. G.	32	2401
HQ-SL	Fellows, R. F.	HARVARD UNIVERSITY	NSG 7095	Pipkin, F. M.	31	2410
HQ-SL	Williams, R. J.	HARVARD UNIVERSITY	NSG 7191	Cameron, A. G.	32	2413
HQ-SL	Fellows, R. F.	KANSAS STATE UNIV	NGL 17-001-026	Williams, D.	31	2184
HQ-SL	Brunk, W. E.	MASS INST OF TECH	NGL 22-009-016	Barrett, A. H.	32	2446
HQ-SL	Fellows, R. F.	MASS INST OF TECH	NGL 22-009-521	Lewis, J. S.	31	2453
HQ-SL	Young, R. S.	MASS INST OF TECH	NGR 22-009-102	Biemann, K.	42	2458
HQ-SL	Brunk, W. E.	MASS INST OF TECH	NGR 22-009-473	McCord, T. B.	11	2463
HQ-SL	Fellows, R. F.	MASS INST OF TECH	NGR 22-009-583	McCord, T. B.	11	2467
HQ-SL	Brunk, W. E.	MASS INST OF TECH	NGR 22-009-672	Pettengill, G. H.	11	2470
HQ-SL	Williams, R. J.	MASS INST OF TECH	NGR 22-009-790	McCord, T. B.	32	2483
HQ-SL	Williams, R. J.	MASS INST OF TECH	NSG 7010	Counselman, C. C., III	32	2518
HQ-SL	Williams, R. J.	MASS INST OF TECH	NSG 7048	McCord, T. B.	32	2519
HQ-SL	Williams, R. J.	MASS INST OF TECH	NSG 7077	Lewis, J. S.	32	2520
HQ-SL	Williams, R. J.	MASS INST OF TECH	NSG 7081	Toksoz, M. N.	32	2521
HQ-SL	Williams, R. J.	MASS INST OF TECH	NSG 7115	Madden, T. R.	32	2523
HQ-SL	Williams, R. J.	MASS INST OF TECH	NSG 7118	Counselman, C. C., III	32	2524
HQ-SL	Brunk, W. E.	NEW MEX ST U-LAS CR	NGL 32-003-001	Beebe, R. F.	11	2809
HQ-SL	Dwornik, S. E.	NORTHERN ARIZONA U	NSG 7182	Cotera, A. S.	32	1109
HQ-SL	Dwornik, S. E.	OREGON STATE UNIV	NSG 7178	Komar, P. D	32	3185
HQ-SL	Williams, R. J.	PENN STATE U-UNIV PK	NSG 7120	Muan, A.	32	3260
HQ-SL	Williams, R. J.	PENN STATE U-UNIV PK	NSG 7193	Alexander, S. S.	32	3261
HQ-SL	Fellows, R. F.	POLY INST OF NY	NGR 33-006-068	Gross, S. H.	31	2961
HQ-SL	Strickland, A. T.	PRINCETON UNIVERSITY	NGR 31-001-202	Dicke, R. H.	13	2770
HQ-SL	Brunk, W. E.	PRINCETON UNIVERSITY	NGR 31-001-242	Smith, W. H.	11	2771
HQ-SL	Brunk, W. E.	PRINCETON UNIVERSITY	NSG 7053	Danielson, R. E.	11	2787
HQ-SL	Williams, R. J.	PRINCETON UNIVERSITY	NSG 7080	Phinney, R. A.	32	2788
HQ-SL	French, B. M.	PURDUE UNIVERSITY	NGL 15-005 140	Lipschutz, M. E.	32	2123
HQ-SL	Fellows, R. F.	RENSSELAER POLY-NY	NGL 33-018-007	Harteck, P.	31	2976
HQ-SL	Tarver, P.	RENSSELAER POLY-NY	NGL 33-018-091	Yerazunis, S. W.	49	2977
HQ-SL	Williams, R. J.	RICE UNIVERSITY	NSG 7032	Michel, F. C.	31	3397
HQ-SL	Fellows, R. F.	RICE UNIVERSITY	NSG 7043	Chamberlain, J. W.	31	3398
HQ-SL	Fellows, R. F.	ST LOUIS UNIVERSITY	NGR 26-006-042	Pallman, A. J.	31	2686
HQ-SL	Williams, R. J.	SAN DIEGO STATE UNIV	NSG 7026	Rehfuss, D. E.	32	1275
HQ-SL	Fellows, R. F.	STANFORD UNIVERSITY	NGL 05-020-014	Eshleman, V. R.	31	1382
HQ-SL	Dwornik, S. E.	STANFORD UNIVERSITY	NGR 05-020-649	Howard, H. T.	32	1408
HQ-SL	Williams, R. J.	STANFORD UNIVERSITY	NSG 7029	Tyler, G. L.	32	1437
HQ-SL	Williams, R. J.	STANFORD UNIVERSITY	NSG 7117	Nur, A. M.	32	1441
HQ-SL	Fellows, R. F.	STATE UNIV NY-ALBANY	NSG 7093	Weinberg, J. L.	31	2993
HQ-SL	Dwornik, S. E.	STATE UNIV NY-BUFFAL	NGR 33-015-108	King, J. S.	32	3002
HQ-SL	Fellows, R. F.	STATE U NY-STONY BRK	NGR 33-015-139	Varanasi, P.	31	3010

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-SL	Brunk, W. E.	STATE U NY-STONY BRK	NGR 33-015-141	Owen, T.	11	3011
HQ-SL	Williams, R. J.	STATE U NY-STONY BRK	NSG 7150	Papike, J. J.	32	3023
HQ-SL	Williams, R. J.	STATE U NY-STONY BRK	NSG 7225	Schaeffer, O. A.	32	3024
HQ-SL	Fellows, R. F.	TEXAS A&M UNIVERSITY	NGR 44-001-117	Plass, G. N.	31	3435
HQ-SL	Williams, R. J.	TEXAS A&M UNIVERSITY	NGR 44-001-152	Rowe, M. W.	32	3436
HQ-SL	Williams, R. J.	TEXAS A&M UNIVERSITY	NSG 7189	Gangi, A. F.	32	3440
HQ-SL	Dwornik, S. E.	TULANE UNIVERSITY	NGR 19-002-038	Meyer, J. D.	32	2263
HQ-SL	Brunk, W. E.	UNIV OF ARIZONA	NGL 03-002-002	Sonett, C. P.	11	1128
HQ-SL	Fellows, R. F.	UNIV OF ARIZONA	NGL 03-002-019	Hoenig, S. A.	31	1131
HQ-SL	Fellows, R. F.	UNIV OF ARIZONA	NGL 03-002-081	Gehrels, T.	11	1133
HQ-SL	Brunk, W. E.	UNIV OF ARIZONA	NGL 03-002-122	Roemer, E.	11	1134
HQ-SL	Williams, R. J.	UNIV OF ARIZONA	NGL 03-002-191	Strom, R. G.	32	1135
HQ-SL	Brunk, W. E.	UNIV OF ARIZONA	NGR 03-002-219	Gehrels, A. M.	11	1140
HQ-SL	Dwornik, S. E.	UNIV OF ARIZONA	NGR 03-002-370	Sonett, C. P.	32	1144
HQ-SL	French, B. M.	UNIV OF ARIZONA	NSG 7011	Wilkening, L. L.	32	1157
HQ-SL	Brunk, W. E.	UNIV OF ARIZONA	NSG 7045	Hubbard, W. B., Jr.	11	1161
HQ-SL	Brunk, W. E.	UNIV OF ARIZONA	NSG 7070	Fink, U. W.	11	1162
HQ-SL	Brunk, W. E.	UNIV OF ARIZONA	NSG 7114	Rieke, G. H.	11	1164
HQ-SL	Fellows, R. F.	UNIV OF ARIZONA	NSG 7123	Gehrels, A. M.	11	1165
HQ-SL	Dwornik, S. E.	UNIV OF ARIZONA	NSG 7146	Strom, R. G.	32	1167
HQ-SL	Williams, R. J.	UNIV OF ARIZONA	NSG 7201	Greenberg, R.	32	1169
HQ-SL	Brunk, W. E.	UNIV OF ARIZONA	NSG 7238	Hubbard, W. B., Jr.	11	1170
HQ-SL	French, B. M.	UNIV OF ARIZONA	NSG 7246	Gehrels, A. M.	32	1171
HQ-SL	French, B. M.	UNIV OF ARIZONA	NSG 7249	Zellner, B. H.	32	1172
HQ-SL	Dwornik, S. E.	U ARKANSAS-MONTICELO	NGR 04-008-001	Dehon, R. A.	32	1183
HQ-SL	Williams, R. J.	U ARKANSAS-MONTICELO	NSG 7216	Dehon, R. A.	32	1184
HQ-SL	Dwornik, S. E.	U ARKANSAS-MONTICELO	NSG 7244	Dehon, R. A.	32	1185
HQ-SL	Fellows, R. F.	UNIV CALIF-BERKELEY	NGL 05-003-286	Pimental, G. C.	31	1470
HQ-SL	Donn, B. D.	UNIV CALIF-BERKELEY	NGR 05-003-309	Cunningham, L. E.	31	1476
HQ-SL	Brunk, W. E.	UNIV CALIF-BERKELEY	NGR 05-003-452	Townes, C. H.	11	1481
HQ-SL	Williams, R. J.	UNIV CALIF-BERKELEY	NSG 7127	Anderson, K. A.	39	1506
HQ-SL	Brunk, W. E.	UNIV CALIF-BERKELEY	NSG 7152	Silver, S.	11	1508
HQ-SL	Donn, B. D.	UNIV CALIF-L ANGELES	NGL 05-007-005	Wetherill, G. W.	11	1556
HQ-SL	Dwornik, S. E.	UNIV CALIF-L ANGELES	NGR 05-007-317	Schubert, G.	32	1565
HQ-SL	French, B. M.	UNIV CALIF-L ANGELES	NGR 05-007-329	Wasson, J. T.	32	1568
HQ-SL	Williams, R. J.	UNIV CALIF-L ANGELES	NGR 05-007-351	Coleman, P. J., Jr.	32	1571
HQ-SL	Williams, R. J.	UNIV CALIF-L ANGELES	NSG 7052	Kieffer, S. W.	32	1586
HQ-SL	Dwornik, S. E.	UNIV CALIF-L ANGELES	NSG 7113	Kaula, W. M.	11	1587
HQ-SL	Fellows, R. F.	UNIV CALIF-L ANGELES	NSG 7164	Schubert, G.	31	1589
HQ-SL	Fellows, R. F.	UNIV CALIF-L ANGELES	NSG 7239	Aller, L. H.	31	1591
HQ-SL	Williams, R. J.	UNIV CALIF-SAN DIEGO	NGL 05-009-002	Arrhenius, G.	32	1609
HQ-SL	French, B. F.	UNIV CALIF-SAN DIEGO	NGL 05-009-004	Arnold, J. R.	32	1610
HQ-SL	French, B. M.	UNIV CALIF-SAN DIEGO	NGL 05-009-005	Suess, H. E.	19	1611
HQ-SL	Williams, R. J.	UNIV CALIF-SAN DIEGO	NGR 05-005-005	Arnold, J. R.	32	1616
HQ-SL	Fellows, R. F.	UNIV CALIF-SAN DIEGO	NGR 05-009-110	Alfven, H.	11	1622
HQ-SL	Williams, R. J.	UNIV CALIF-SAN DIEGO	NSG 7027	Arnold, J. R.	32	1640
HQ-SL	Dwornik, S. E.	UNIV CALIF-SAN DIEGO	NSG 7102	Alfven, H.	32	1642
HQ-SL	French, B. M.	UNIV CALIF-SAN DIEGO	NSG 7121	MacDougall, J. D.	32	1643
HQ-SL	Dwornik, S. E.	UNIV CALIF-SAN DIEGO	W-14108	Alfven, H.	32	1645
HQ-SL	Dwornik, S. E.	UNIV CALIF-S BARBARA	NGR 05-010-062	Peale, S. J.	32	1657
HQ-SL	French, B. M.	UNIV OF CHICAGO	NGL 14-001-010	Anders, E.	32	2058
HQ-SL	Dwornik, S. E.	UNIV OF CHICAGO	NGR 14-001-135	Turkevich, A. L.	32	2064
HQ-SL	Fellows, R. F.	UNIV OF CHICAGO	NGR 14-001-194	Kaplan, L. D.	31	2067
HQ-SL	French, B. M.	UNIV OF CHICAGO	NGR 14-001-249	Grossman, L.	32	2071
HQ-SL	Williams, R. J.	UNIV OF CHICAGO	NSG 7212	Schramm, D. N.	32	2074
HQ-SL	Brunk, W. E.	UNIV OF CINCINNATI	NGR 36-004-075	Herget, P.	11	3139
HQ-SL	Fellows, R. F.	UNIV COLORADO-BOLDR	NGL 06-003-052	Barth, C. A.	31	1773
HQ-SL	Fellows, R. F.	UNIV COLORADO-BOLDR	NGL 06-003-064	Barth, C. A.	31	1775

APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-SL	Brunk, W. E.	UNIV COLORADO-BOLDR	NGR 06-003-127	Barth, C. A.	31	1778
HQ-SL	Dwornik, S. E.	UNIV COLORADO-BOLDR	NGR 06-003-199	Peterson, J. E.	32	1782
HQ-SL	Fellows, R. F.	UNIV OF FLORIDA	NGL 10-005-008	Green, A. S.	31	1921
HQ-SL	Dwornik, S. E.	UNIV OF GEORGIA	NGR 11-003-037	Howard, H. T.	32	2016
HQ-SL	Strickland, A. T.	UNIV OF HAWAII-MANOA	NASW 2326	Jefferies, J. T.	11	2020
HQ-SL	Brunk, W. E.	UNIV OF HAWAII-MANOA	NGL 12-001-057	Jefferies, J. T.	11	2026
HQ-SL	Strickland, A. T.	UNIV OF HAWAII-MANOA	NGR 12-001-127	Jefferies, J. T.	32	2029
HQ-SL	Strickland, A. T.	UNIV OF HAWAII-MANOA	NSG 7179	Berg, E.	19	2032
HQ-SL	Brunk, W. E.	UNIV OF HAWAII-MANOA	NSR 12-001-019	Jefferies, J. T.	11	2033
HQ-SL	Dwornik, S. E.	UNIV HOUSTON-HOUSTON	NGR 44-005-131	King, E. A., Jr.	32	3467
HQ-SL	Williams, R. J.	UNIV HOUSTON-HOUSTON	NSG 7198	Butler, J. C.	32	3473
HQ-SL	Brunk, W. E.	UNIV ILLINOIS-URBANA	NGR 14-005-176	Dickel, J. R.	11	2079
HQ-SL	Dwornik, S. E.	UNIV OF KANSAS	NGR 17-002-106	Warnke, D. E.	32	2196
HQ-SL	Brunk, W. E.	UNIV MARYLAND-COL PK	NGR 21-002-002	Öpik, E. J.	11	2322
HQ-SL	Brunk, W. E.	UNIV MARYLAND-COL PK	NGR 21-002-199	Kundu, M. R.	13	2327
HQ-SL	Williams, R. J.	UNIV MARYLAND-COL PK	NSG 7046	Adler, I.	32	2364
HQ-SL	Brunk, W. E.	UNIV OF MASS-AMHERST	NGL 22-010-023	Irvine, W. M.	11	2537
HQ-SL	Dwornik, S. E.	UNIV OF MASS-AMHERST	NGR 22-010-076	McGill, G. E.	32	2540
HQ-SL	French, B. M.	UNIV OF MIAMI	NSG 7245	Fisher, D. E.	32	1946
HQ-SL	Fellows, R. F.	UNIV MICH-ANN ARBOR	NGR 23-005-094	Liu, W. C.	31	2578
HQ-SL	Fellows, R. F.	UNIV MICH-ANN ARBOR	NGR 23-005-540	Bartman, F. L.	31	2586
HQ-SL	Fellows, R. F.	U MINN-MNPLS-ST PAUL	NGL 24-005-009	Nier, A. O.	31	2628
HQ-SL	Fellows, R. F.	U MINN-MNPLS-ST PAUL	NGR 24-005-196	Nier, A. O.	31	2633
HQ-SL	Fellows, R. F.	UNIV NEBRASKA-LINCLN	NGR 28-004-021	Samson, J. A.	31	2726
HQ-SL	Stuart-Alexander, D. E.	UNIV OF NEW MEXICO	NGL 32-004-064	Keil, K.	32	2832
HQ-SL	Dwornik, S. E.	UNIV OF NEW MEXICO	NGR 32-004-062	Elston, W. E.	32	2834
HQ-SL	Williams, R. J.	UNIV OREGON-EUGENE	NGR 38-003-020	Weill, D. F.	32	3189
HQ-SL	Fellows, R. F.	UNIV OF PITTSBURGH	NGL 39-011-013	Fite, W. L.	31	3277
HQ-SL	Fellows, R. F.	UNIV OF PITTSBURGH	NGL 39-011-030	Zipf, E. C., Jr.	31	3278
HQ-SL	Williams, R. J.	UNIV OF PITTSBURGH	NGL 39-011-085	Hapke, B. W.	32	3280
HQ-SL	Fellows, R. F.	UNIV OF PITTSBURGH	NGR 39-011-137	Biondi, M. A.	31	3283
HQ-SL	Dwornik, S. E.	UNIV OF PITTSBURGH	NSG 7147	Hapke, B. W.	11	3291
HQ-SL	Williams, R. J.	UNIV OF PITTSBURGH	NSG 7203	Hapke, B. W.	32	3292
HQ-SL	Dwornik, S. E.	UNIV OF SANTA CLARA	NGR 05-017-037	Greeley, R.	32	1696
HQ-SL	Williams, R. J.	UNIV OF SANTA CLARA	NSG 7141	Greeley, R.	32	1702
HQ-SL	Fellows, R. F.	UNIV SO CAROLINA-COL	NGL 41-002-003	Durig, J. R.	31	3311
HQ-SL	Dwornik, S. E.	UNIV SO CAROLINA-COL	NSG 7076	Nummedal, D.	32	3312
HQ-SL	Fellows, R. F.	UNIV OF SOUTHERN CAL	NGR 05-018-178	Maxworthy, T.	31	1713
HQ-SL	Fellows, R. F.	UNIV OF SOUTHERN CAL	NGR 05-018-180	Judge, D. L.	31	1714
HQ-SL	Fellows, R. F.	UNIV TENNESSEE-KNOXV	NGL 43-001-006	Gailar, N. M.	31	3338
HQ-SL	Brunk, W. E.	UNIV TEXAS-AUSTIN	NGL 44-012-006	Cogdell, J. R.	11	3491
HQ-SL	Brunk, W. E.	UNIV TEXAS-AUSTIN	NGL 44-012-055	Douglas, J. N.	11	3493
HQ-SL	Brunk, W. E.	UNIV TEXAS-AUSTIN	NGR 44-012-152	Mulholland, J. D.	11	3495
HQ-SL	Strickland, A. T.	UNIV TEXAS-AUSTIN	NGR 44-012-165	Smith, H. J.	32	3496
HQ-SL	Dwornik, S. E.	UNIV TEXAS-AUSTIN	NGR 44-012-194	Ingerson, F. E.	32	3497
HQ-SL	Strickland, A. T.	UNIV TEXAS-AUSTIN	NGR 44-012-219	Mulholland, J. D.	11	3499
HQ-SL	Young, R. S.	UNIV TEXAS-AUSTIN	NGR 44-012-225	Parker, P. L.	32	3500
HQ-SL	Dwornik, S. E.	UNIV TEXAS-AUSTIN	NGR 44-012-279	Devaucouleurs, G. H.	32	3505
HQ-SL	Brunk, W. E.	UNIV TEXAS-AUSTIN	NGR 44-012-282	Trafton, L. M.	11	3507
HQ-SL	Strickland, A. T.	UNIV TEXAS-AUSTIN	NSG 7159	Latham, G. V.	19	3516
HQ-SL	Shirey, W. H.	UNIV TEXAS-AUSTIN	NSG 7162	Shelus, P. J.	19	3517
HQ-SL	Smith, M. J.	UNIV TEXAS-AUSTIN	NSG 7250	Muehlberger, W. R.	32	3519
HQ-SL	Fellows, R. F.	UNIV TEXAS-DALLAS	NGL 44-004-001	Johnson, F. S.	31	3528
HQ-SL	Fellows, R. F.	UNIV TEXAS-DALLAS	NGL 44-004-026	Johnson, F. S.	31	3529
HQ-SL	Williams, R. J.	UNIV TEXAS-DALLAS	NSG 7034	Hodges, R. R., Jr.	31	3539
HQ-SL	Fellows, R. F.	UNIV OF TOLEDO	W-14168	Delsemme, A. H.	19	3161
HQ-SL	Dwornik, S. E.	UNIV OF UTAH	NGR 45-003-095	Wilson, R. C.	32	3567
HQ-SL	Dwornik, S. E.	UNIV OF VIRGINIA	NGR 47-005-172	Howard, A.	32	3669

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-SL	French, B. M.	UNIV OF VIRGINIA	NGR 47-005-176	Allen, R. O.	32	3670
HQ-SL	Fellows, R. F.	UNIV OF WASHINGTON	NGR 48-002-003	Hodge, P. W.	41	3748
HQ-SL	Fellows, R. F.	UNIV OF WASHINGTON	NGR 48-002-033	Hodge, P. W.	11	3749
HQ-SL	Brunk, W. E.	UNIV OF WASHINGTON	NGR 48-002-142	Jin, R. S.	11	3753
HQ-SL	Dwornik, S. E.	UNIV OF WASHINGTON	NGR 48-002-153	Vgolihi, F. C.	32	3755
HQ-SL	Fellows, R. F.	UNIV OF WASHINGTON	NGR 48-002-162	Leovy, C. B.	31	3757
HQ-SL	Fellows, R. F.	UNIV OF WASHINGTON	NSG 7085	Leovy, C. B.	31	3760
HQ-SL	Williams, R. J.	UNIV OF WASHINGTON	NSG 7173	Adams, J. B.	32	3761
HQ-SL	Williams, R. J.	UNIV OF WASHINGTON	NSG 7174	Adams, J. B.	32	3762
HQ-SL	Fellows, R. F.	UNIV WISC-MADISON	NGR 50-002-189	Suomi, V. E.	31	3794
HQ-SL	Williams, R. J.	UNIV WISC-MADISON	NSG 7215	Taylor, J. W.	32	3805
HQ-SL	Dwornik, S. E.	UNIV WISC-PARKSIDE	NGR 50-009-001	Smith, E. I.	32	3807
HQ-SL	Fellows, R. F.	VIRGINIA POLY INST	NGL 47-004-080	McGee, H. A.	11	3698
HQ-SL	Dwornik, S. E.	VIRGINIA POLY INST	NSG 7111	Gilbert, C.	32	3732
HQ-SL	Dwornik, S. E.	WASHINGTON UNIVERSTY	NSG 7087	Arvidson, R. E.	32	2717
HQ-SL	Dwornik, S. E.	WEST TEXAS ST UNIV	NGR 44-015-003	Underwood, J. R.	32	3550
HQ-SL	Fellows, R. F.	YALE UNIVERSITY	NGL 07-004-043	Cross, R. J., Jr.	31	1825
HQ-SL	Dwornik, S. E.	YALE UNIVERSITY	NGR 07-004-157	Skinner, B. J.	32	1827
HQ-SL	Williams, R. J.	YALE UNIVERSITY	NGR 07-004-166	Turekian, K. K.	32	1828
HQ-SM	Kosofsky, L. J.	BROWN UNIVERSITY	NASW 2827	Head, J. W., III	32	3294
HQ-SM	Bryson, R. P.	CALIF INST OF TECH	NGL 05-002-069	Anderson, D. L.	32	1203
HQ-SM	Stuart-Alexander, D. E.	CALIF INST OF TECH	NSG 7023	Burnett, D. S.	32	1235
HQ-SM	Bryson, R. P.	CALIF INST OF TECH	NSG 7084	Wasserburg, G. J.	32	1236
HQ-SM	Kosofsky, L. J.	CITY U N Y-GRAD SCHL	NSG 7028	Saxena, S. K.	32	2858
HQ-SM	Stuart-Alexander, D. E.	CORNELL UNIVERSITY	NGL 33-010-005	Gold, T.	32	2907
HQ-SM	Stuart-Alexander, D. E.	CORNELL UNIVERSITY	NGR 33-010-108	Turcotte, D. L.	32	2914
HQ-SM	Kosofsky, L. J.	FAIRLEIGH-DICKNSON U	NGL 31-006-010	Adams, J. B.	32	2745
HQ-SM	Kosofsky, L. J.	FAIRLEIGH-DICKNSON U	NSG 7047	Hartung, J. B.	32	2747
HQ-SM	Stuartalexander, D. E.	LEHIGH UNIVERSITY	NGR 39-007-043	Goldstein, J. I.	32	3218
HQ-SM	Kosofsky, L. J.	MASS INST OF TECH	NGL 22-009-187	Press, F.	32	2450
HQ-SM	Bryson, R. P.	MASS INST OF TECH	NGR 22-009-350	McCord, T. B.	32	2461
HQ-SM	Bryson, R. P.	NORTHWESTERN UNIV	NGL 14-007-016	Hynek, J. A.	32	2039
HQ-SM	Bryson, R. P.	OREGON STATE UNIV	NGL 38-002-020	Schmitt, R. A.	32	3182
HQ-SM	Bryson, R. P.	PENN STATE U-UNIV PK	NGL 39-009-010	Gold, D. P.	32	3239
HQ-SM	Stuart-Alexander, D. E.	RICE UNIVERSITY	NSG 7025	Lenzen, K. H.	31	3396
HQ-SM	Stuart-Alexander, D. E.	STATE U NY-STONY BRK	NSG 7036	Hartung, J. B.	32	3022
HQ-SM	Hanley, J. B.	UNIV OF ARIZONA	NSG 7014	Whitaker, E. A.	32	1158
HQ-SM	Stuart-Alexander, D. E.	UNIV OF ARIZONA	NSG 7020	Sonett, C. P.	32	1159
HQ-SM	Stuart-Alexander, D. E.	UNIV CALIF-L ANGELES	NGL 05-007-002	Kaula, W. M.	32	1553
HQ-SM	Bryson, R. P.	UNIV CALIF-L ANGELES	NGL 05-007-006	Kennedy, G. C.	32	1557
HQ-SM	Bryson, R. P.	UNIV CALIF-S BARBARA	NSG 7122	Fuller, M. D.	32	1660
HQ-SM	Strickland, A. T.	UNIV OF HAWAII-MANOA	NGF 12-001-102	Jefferies, J. T.	11	2023
HQ-SM	Alexander, D. E.	UNIV MARYLAND-COL PK	NSG 7017	Wasilewski, P.	32	2363
HQ-SM	Bryson, R. P.	UNIV MICH-ANN ARBOR	NGR 23-005-537	Evans, B. J.	2	2585
HQ-SM	Hanley, J. B.	UNIV OF NEW MEXICO	NGL 32-004-011	Elston, W. E.	32	2829
HQ-SM	Hanley, J. B.	UNIV OF NEW MEXICO	NSG 7066	Elston, W. E.	32	2839
HQ-SM	Kosofsky, L. J.	UNIV OF PENNSYLVANIA	NSG 7031	Friel, J. J.	32	3268
HQ-SM	Kosofsky, L. J.	UNIV OF PENNSYLVANIA	NSG 7119	Friel, J. J.	32	3269
HQ-SM	Bryson, R. P.	UNIV TEXAS-AUSTIN	NGL 44-012-045	Clabaugh, S. E.	32	3492
HQ-SM	Bryson, R. P.	UNIV OF UTAH	NSG 7090	Ward, S. H.	32	3570
HQ-SM	Stuart -Alexander, D. E.	WASHINGTON UNIVERSTY	NSG 7016	Hohenberg, C. M.	32	2716
HQ-ST	Cauffman, D. P.	BOSTON COLLEGE	NSG 7190	Eather, R. H.	13	2372
HQ-ST	Timothy, A. F.	BRANDEIS UNIVERSITY	NSG 7098	Stein, R. F.	11	2378
HQ-ST	Cauffman, D. P.	BRIGHAM YOUNG UNIV	NGR 45-001-011	Jones, D. E.	39	3553
HQ-ST	Timothy, A. F.	CALIF INST OF TECH	NGL 05-002-034	Henry, D. G.	11	1202
HQ-ST	Timothy, A. F.	CALIF INST OF TECH	NGR 05-002-142	Zirin, H.	11	1217
HQ-ST	Timothy, A. F.	CALIF INST OF TECH	NGR 05-002-294	Zirin, H.	11	1223
HQ-ST	Schmerling, E. R.	CALIF INST OF TECH	NGR 05-002-296	Garmire, G. P.	11	1224

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-ST	Timothy, A. F.	CALIF INST OF TECH	NGR 05-002-345	Zirin, H.	13	1231
HQ-ST	Taylor, W. W.	CATHOLIC UNIVERSITY	NGR 09-005-063	Whang, Y. C.	13	1837
HQ-ST	Taylor, W. L.	COLUMBIA UNIVERSITY	NGR 33-008-183	Wolff, R. S.	11	2879
HQ-ST	Timothy, A. F.	COLUMBIA UNIVERSITY	NGR 33-008-189	Wolff, R. S.	11	2880
HQ-ST	Timothy, A. F.	COLUMBIA UNIVERSITY	NGR 33-008-200	Novick, R.	11	2884
HQ-ST	Timothy, A. F.	COLUMBIA UNIVERSITY	NSG 7075	Novick, R.	11	2893
HQ-ST	Taylor, W. W.	CORNELL UNIVERSITY	NGR 33-010-161	Farley, D. T.	13	2918
HQ-ST	Schmerling, E. R.	CORNELL UNIVERSITY	NSG 7104	Walker, J. C.	13	2932
HQ-ST	Schmerling, E. R.	CORNELL UNIVERSITY	NSG 7135	Auer, P. L.	13	2934
HQ-ST	Schmerling, E. R.	DARTMOUTH COLLEGE	NGR 30-001-041	Morgan, M. G.	13	2733
HQ-ST	Schmerling, E. R.	DARTMOUTH COLLEGE	NSG 7097	Sonnerup, B.	11	2735
HQ-ST	Cauffman, D. P.	GRAMBLING STATE UNIV	NGR 19-011-007	Cummings, W. D.	13	2238
HQ-ST	Timothy, A. F.	HARVARD UNIVERSITY	NGL 22-007-006	Parkinson, W. H.	13	2391
HQ-ST	Timothy, A. F.	HARVARD UNIVERSITY	NGR 22-007-202	Parkinson, W. H.	11	2396
HQ-ST	Timothy, A. F.	HARVARD UNIVERSITY	NGR 22-007-257	Maxwell, A.	11	2399
HQ-ST	Timothy, A. F.	HARVARD UNIVERSITY	NSG 7018	Noyes, R. W.	11	2409
HQ-ST	Timothy, A. F.	HARVARD UNIVERSITY	NSG 7175	Reeves, E. M.	13	2411
HQ-ST	Taylor, W. W.	JOHNS HOPKINS UNIV	NSG 7055	Krimigis, S. M.	13	2292
HQ-ST	Schmerling, E. R.	MASS INST OF TECH	NGL 22-009-015	Bridge, H. S.	13	2445
HQ-ST	Schmerling, E. R.	PENN STATE U-UNIV PK	NGL 39-009-002	Ross, W. J.	13	3236
HQ-ST	Schmerling, E. R.	PENN STATE U-UNIV PK	NGL 39-009-003	Nisbet, J. S.	13	3237
HQ-ST	Schmerling, E. R.	PENN STATE U-UNIV PK	NGL 39-009-032	Kendall, B. R.	13	3240
HQ-ST	Schmerling, E. R.	PENN STATE U-UNIV PK	NGR 39-009-218	Hale, L. C.	13	3245
HQ-ST	Taylor, W. W.	POLY INST OF NY	NGR 33-006-047	Gross, S. H.	13	2960
HQ-ST	Timothy, A. F.	PRINCETON UNIVERSITY	NSG 7088	Schwartzchild, M.	11	2789
HQ-ST	Cauffman, D. P.	RICE UNIVERSITY	NGL 44-006-012	Michel, F. C.	13	3391
HQ-ST	Cauffman, D. P.	RICE UNIVERSITY	NGR 44-006-137	Dessler, A. J.	13	3393
HQ-ST	Williams, R. J.	RICE UNIVERSITY	NSG 7157	Freeman, J. W., Jr.	32	3399
HQ-ST	Timothy, A. F.	SACRAMENTO CITY COL	NGR 05-084-002	Vorpahl, J. A.	11	1272
HQ-ST	Schmerling, E. R.	STANFORD UNIVERSITY	NGL 05-020-008	Helliwell, R. A.	13	1381
HQ-ST	Cauffman, D. P.	STANFORD UNIVERSITY	NGL 05-020-176	Crawford, F. W.	13	1385
HQ-ST	Timothy, A. F.	STANFORD UNIVERSITY	NGL 05-020-272	Sturrock, P. A.	13	1388
HQ-ST	Berko, F. W.	STANFORD UNIVERSITY	NGR 05-020-001	Da Rosa, A. V.	13	1393
HQ-ST	Cauffman, D. P.	STANFORD UNIVERSITY	NGR 05-020-407	Croft, T. A.	19	1398
HQ-ST	Timothy, A. F.	STANFORD UNIVERSITY	NSG 7092	Jordan, T. H.	11	1438
HQ-ST	Timothy, A. F.	STANFORD UNIVERSITY	NSG 7099	Walker, A. B., Jr.	11	1439
HQ-ST	Timothy, A. F.	STATE U NY-STONY BRK	NSG 7003	Stroke, G. W.	11	3021
HQ-ST	Timothy, A. F.	UNIV ALA-HUNTSVILLE	NGR 01-008-015	Rao, G. L.	11	1066
HQ-ST	Schmerling, E. R.	UNIV ALASKA-FAIRBNKS	NGR 02-001-087	Davis, T. N.	13	1090
HQ-ST	Schmerling, E. R.	UNIV ALASKA-FAIRBNKS	NSG 7051	Akasofu, S. I.	13	1092
HQ-ST	Cauffman, D. P.	UNIV OF ARIZONA	NGR 03-002-107	Hsieh, K. C.	13	1138
HQ-ST	Cauffman, D. P.	UNIV OF ARIZONA	NSG 7024	Sonett, C. P.	13	1160
HQ-ST	Timothy, A. F.	UNIV OF ARIZONA	NSG 7168	Levy, E. H.	13	1168
HQ-ST	Schmerling, E. R.	UNIV CALIF-BERKELEY	NGL 05-003-017	Anderson, K. A.	19	1467
HQ-ST	Timothy, A. F.	UNIV CALIF-BERKELEY	NGR 05-003-510	Anderson, K. A.	11	1485
HQ-ST	Schmerling, E. R.	UNIV CALIF-DAVIS	NGR 05-004-006	McIlwain, C. E.	32	1526
HQ-ST	Cauffman, D. P.	UNIV CALIF-L ANGELES	NGL 05-007-004	Coleman, P. J., Jr.	39	1555
HQ-ST	Taylor, W. W.	UNIV CALIF-L ANGELES	NGL 05-007-190	Kennel, C. F.	19	1558
HQ-ST	Cauffman, D. P.	UNIV CALIF-L ANGELES	NGR 05-007-276	Holzer, R. E.	13	1563
HQ-ST	Timothy, A. F.	UNIV CALIF-L ANGELES	NSG 7158	Ulrich, R. K.	13	1588
HQ-ST	Cauffman, D. P.	UNIV CALIF-L ANGELES	NSG 7180	Siscoe, G. L.	39	1590
HQ-ST	Cauffman, D. P.	UNIV CALIF-SAN DIEGO	NGL 05-005-007	McIlwain, C. E.	13	1608
HQ-ST	Taylor, W. W.	UNIV CALIF-SAN DIEGO	NGR 05-009-075	Banks, P. M.	13	1618
HQ-ST	Cauffman, D. P.	UNIV CALIF-SAN DIEGO	NGR 05-009-076	Fejer, J. A.	13	1619
HQ-ST	Schmerling, E. R.	UNIV CALIF-SAN DIEGO	NGR 05-009-081	Axford, W. I.	13	1620
HQ-ST	Timothy, A. F.	UNIV CALIF-SAN DIEGO	NGR 05-009-226	Penner, S. S.	11	1628
HQ-ST	Schmerling, E. R.	UNIV CALIF-SAN DIEGO	NSG 7001	Doupnik, J. R.	31	1639
HQ-ST	Timothy, A. F.	UNIV CALIF-SAN DIEGO	NSG 7100	Hudson, H. S.	13	1641

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ-ST	Timothy, A. F.	UNIV CALIF-SAN DIEGO	NSG 7161	Peterson, L. E.	13	1644
HQ-ST	Timothy, A. F.	UNIV OF CHICAGO	NGR 14-001-164	Blake, R. L.	11	2066
HQ-ST	Timothy, A. F.	UNIV COLORADO-BOLDR	NGL 06-003-057	Cooper, J.	13	1774
HQ-ST	Timothy, A. F.	UNIV COLORADO-BOLDR	NGR 06-003-069	Barth, C. A.	11	1777
HQ-ST	Timothy, A. F.	UNIV COLORADO-BOLDR	NSG 7130	Bruner, E. C., Jr.	13	1797
HQ-ST	Timothy, A. F.	UNIV COLORADO-BOLDR	NSG 7165	Barth, C. A.	13	1798
HQ-ST	Timothy, A. F.	UNIV COLORADO-BOLDR	NSG 7166	Roberts, W. O.	13	1799
HQ-ST	Schmerling, E. R.	UNIV OF DENVER	NGR 06-004-058	Patel, V. L.	13	1809
HQ-ST	Taylor, W. W.	UNIV OF DENVER	NGR 06-004-060	Roederer, J. G.	13	1810
HQ-ST	Timothy, A. F.	UNIV OF HAWAII-MANOA	NGL 12-001-011	Jefferies, J. T.	11	2024
HQ-ST	Cauffman, D. P.	UNIV HOUSTON-HOUSTON	NGR 44-005-133	Sheldon, W. R.	31	[illegible]68
HQ-ST	Taylor, W. W.	UNIV OF IOWA	NGL 16-001-002	Van Allen, J. A.	13	2178
HQ-ST	Cauffman, D. P.	UNIV OF IOWA	NGL 16-001-043	Montgomery, D. C.	13	2179
HQ-ST	Cauffman, D. P.	UNIV MARYLAND-COL PK	NGL 21-002-005	Wu, C. S.	19	2319
HQ-ST	Timothy, A. F.	UNIV MARYLAND-COL PK	NGR 21-002-007	Wilkerson, T. D.	11	2323
HQ-ST	Cauffman, D. P.	UNIV MARYLAND-COL PK	NGR 21-002-386	Matthews, D. L.	11	2335
HQ-ST	Timothy, A. F.	UNIV OF MASS-AMHERST	NGL 22-010-025	Strong, J.	11	2538
HQ-ST	Timothy, A. F.	UNIV MICH-ANN ARBOR	NGL 23-005-275	Mohler, O. C.	11	2576
HQ-ST	Cauffman, D. P.	UNIV MICH-ANN ARBOR	NGR 23-005-015	Nagy, A. F.	31	2577
HQ-ST	Schmerling, E. R.	UNIV MICH-ANN ARBOR	NGR 23-005-320	Samir, U.	13	2579
HQ-ST	Timothy, A. F.	UNIV MICH-ANN ARBOR	NGR 23-005-543	Teske, R. G.	11	2587
HQ-ST	Schmerling, E. R.	UNIV MICH-ANN ARBOR	NSG 7137	Donahue, T. M.	11	2602
HQ-ST	Cauffman, D. P.	U MINN-MNPLS-ST PAUL	NGL 24-005-008	Winckler, J. R.	13	2627
HQ-ST	Schmerling, E. R.	U MINN-MNPLS-ST PAUL	NGR 24-005-253	Cahill, L. J., Jr.	13	2636
HQ-ST	Cauffman, D. P.	U MINN-MNPLS-ST PAUL	NSG 7005	Winckler, J. R.	39	2645
HQ-ST	Taylor, W. W.	U MINN-MNPLS-ST PAUL	NSG 7108	Kellogg, P. J.	19	2646
HQ-ST	Cauffman, D. P.	U MINN-MNPLS-ST PAUL	NSG 7237	Cahill, L. J., Jr.	19	2648
HQ-ST	Hunter, W. R.	UNIV NEW HAMP-DURHAM	NGL 30-002-018	Chupp, E. L.	13	2740
HQ-ST	Schmerling, E. R.	UNIV NEW HAMP-DURHAM	NGR 30-002-054	Arnoldy, R. L.	13	2743
HQ-ST	Timothy, A. F.	UNIV NEW HAMP-DURHAM	NGR 30-002-104	Chupp, E. L.	13	2744
HQ-ST	Cauffman, D. P.	UNIV OF SOUTHERN CAL	NGR 05-018-181	Vasyliunas, V. M.	13	1715
HQ-ST	Timothy, A. F.	UNIV TENNESSEE-KNOXV	NSG 7049	Sellin, I. A.	11	3349
HQ-ST	Timothy, A. F.	UNIV TEXAS-AUSTIN	NGR 44-012-258	Bengtson, P. D.	11	3502
HQ-ST	Cauffman, D. P.	UNIV TEXAS-DALLAS	NGR 44-004-030	Heikkila, W. J.	13	3531
HQ-ST	Taylor, W. W.	UNIV TEXAS-DALLAS	NGR 44-004-120	Hanson, W. B.	31	3532
HQ-ST	Schmerling, E. R.	UNIV TEXAS-DALLAS	NGR 44-004-142	Tinsley, B. A.	19	3535
HQ-ST	Schmerling, E. R.	UNIV TEXAS-DALLAS	NGR 44-004-150	Heikkila, W. J.	31	3536
HQ-ST	Schmerling, E. R.	UNIV TEXAS-DALLAS	NSG 7107	Hoffman, J. H.	31	3540
HQ-ST	Schmerling, E. R.	UNIV TEXAS-DALLAS	NSR 44-004-041	Heikkita, W. J.	13	3541
HQ-ST	Schmerling, E. R.	UNIV OF WASHINGTON	NGR 48-002-154	Parks, G. K.	13	3756
HQ-ST	Cauffman, D. P.	UNIV WISC-MADISON	NGR 50-002-162	Scherb, F.	13	3793
HQ-ST	Schmerling, E. R.	WASHINGTON UNIVERSTY	NGL 26-008-057	Abrahamshrauner, B.	13	2710
HQ-SU	King, J., Jr.	STATE UNIV NY-ALBANY	NSG 7222	Kiang, C. S.	31	2994
HQ-SU	King, J., Jr.	STATE UNIV NY-ALBANY	NSG 7230	Weinberg, J. L.	31	2995
HQ-SU	Reed, E. F.	UNIV CALIF-IRVINE	NSG 7208	Molina, M. J.	31	1530
HQ-SU	King, J., Jr.	UNIV COLORADO-BOLDR	NSG 7224	London, J.	31	1800
HQ-SU	King, J., Jr.	UNIV COLORADO-BOLDR	NSG 7231	Thomas, R. J.	31	1801
HQ-SU	King, J., Jr.	UNIV ILLINOIS-URBANA	W-14133	Unavailable	31	2097
HQ-SU	King, J., Jr.	UNIV MICH-ANN ARBOR	NSG 7187	Cicerone, R. J.	12	2603
HQ-SU	King, J., Jr.	UNIV MICH-ANN ARBOR	NSG 7209	Donahue, T. M.	31	2604
HQ-SU	King, J., Jr.	U MINN-MNPLS-ST PAUL	NSG 7221	Mauersberger, K.	31	2647
HQ-SU	King, J., Jr.	UNIV OF WYOMING	NSG 7207	Hofmann, D. J.	31	3813
HQ-SU	King, J., Jr.	UTAH STATE UNIV	NSG 7206	Moore, W. M.	12	3577
HQ-SU	King, J., Jr.	UTAH STATE UNIV	NSG 7210	Baker, K. D.	31	3578
HQ-SU	King, J., Jr.	WASHINGTON ST UNIV	NSG 7214	Rasmussen, R. A.	31	3765
HQ-U	Monroe, R.	HOWARD UNIVERSITY	NASW 2906	Unavailable	99	1877
HQ-U	Monroe, R.	NEW MEX ST U-LAS CR	NASW 2928	Alba, A.	41	2806
HQ-U	Dixon, J. T.	SHAW UNIVERSITY	NASW 2793	Unavailable	99	3072

NASA'S UNIVERSITY PROGRAM
APPENDIX C CROSS INDEX BY TECHNICAL OFFICER LOCATION

TECH OFF LOC	TECHNICAL OFFICER	INSTITUTION	GRANT/ CONTRACT NUMBER	FIRST PRINCIPAL INVESTIGATOR	FIELD CODE	ACC NO.
HQ	Poppa, H. R.	UNIV CALIF-BERKELEY	NCA 2-50605	Everhart, T. E.	47	1463
HQ	Ericson, E. F.	UNIV CALIF-BERKELEY	NCA 2-50606	Gaustad, J.	11	1464
HQ	Pollack, J. B.	UNIV CALIF-DAVIS	NCA 2-180605	White, B. R.	32	1523
HQ	Unavailable	UNIV CALIF-L ANGELES	C-80166C	Unavailable	47	1531

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